

Between Discipline and Intuition: The Military Decision Making Process in the Army's Future Force

**A Monograph
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This monograph examines the need to retool the military decision making process (MDMP) as the U.S. Army transforms to the future force. Although the MDMP is the current doctrinal framework to decision making and planning at the tactical levels, it represents an analytical approach to problem solving with the concerted efforts of a commander and his staff. This monograph compares the current MDMP as an analytical process with the emerging science and theory of naturalistic decision making (NDM) as best represented by Dr. Gary Klein's Recognition Primed Decision Making (RPD) model for intuitive decision making. This monograph compares the two processes to determine which is a better model to use and recommends that a formal recognition of RPD elements and a commander's experience must be codified to present a better model for planning and decision making in the future force. A comparison of the requirements for battle command now and in the future is used to show the validity of any planning and decision making process that is codified by doctrine. Specifically, this monograph explains that any planning process must support a commander's need to visualize, describe, and direct actions against a hostile, thinking enemy. Also, any planning and decision making process must allow for synchronization and synergy of effects as the future force must be capable of rapid, decisive operations with a multitude of assets that make up its combat power. Flexibility must be resident in the process to account for future force operations across the spectrum of conflict as well as to provide a framework that is adaptable and modular. Lastly, any planning and decision making process for the future force must have some semblance of standardization to the process as the common language all organizations can train and execute. Given the network connectivity of the future force, these requirements will only enhance any commander's ability to plan and conduct operations. This monograph concludes that the MDMP need not be discarded nor that the RPD need to be adopted as-is. Rather, the integration of course of action development and wargaming earlier into the process, by overlapping with mission analysis, lends to a formal acknowledgement of how commanders input their experience into the process. A conceptual model is presented to explain how parallel, simultaneous, distributed, and collaborative planning in the future force will be better served with this planning and decision making framework. Lastly, specific recommendations to formalize adaptive leadership development that increase an officer's experiential database in both the institutional and organizational Army is given to develop those leadership traits and abilities that support planning and decision making in the future force.

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Abstract

BETWEEN DISCIPLINE AND INTUITION: THE MILITARY DECISION MAKING PROCESS IN THE ARMY'S FUTURE FORCE by MAJ J.B. Vowell, USA, 56 pages.

This monograph examines the need to retool the military decision making process (MDMP) as the U.S. Army transforms to the future force. Although the MDMP is the current doctrinal framework to decision making and planning at the tactical levels, it represents an analytical approach to problem solving with the concerted efforts of a commander and his staff. Contrary viewpoints and research shows that this approach to decision making is not necessarily representative of how true decisions are made. As a result, many leaders in the U.S. Army have argued a need to change the MDMP to reflect more of the experience and abilities of the commander versus detailed analysis from his staff. This monograph compares the current MDMP as an analytical process with the emerging science and theory of naturalistic decision making (NDM) as best represented by Dr. Gary Klein's Recognition Primed Decision Making (RPD) model for intuitive decision making. This monograph compares the two processes to determine which is a better model to use given the requirements and capabilities of the future force and recommends that a formal recognition of RPD elements and a commander's experience must be codified to present a better model for planning and decision making in the future force.

A comparison of the requirements for battle command now and in the future is used to show the validity of any planning and decision making process that is codified by doctrine. Specifically, this monograph explains that any planning process must support a commander's need to visualize, describe, and direct actions against a hostile, thinking enemy. Also, any planning and decision making process must allow for synchronization and synergy of effects as the future force must be capable of rapid, decisive operations with a multitude of assets that make up its combat power. Flexibility must be resident in the process to account for future force operations across the spectrum of conflict as well as to provide a framework that is adaptable and modular. Lastly, any planning and decision making process for the future force must have some semblance of standardization to the process as the common language all organizations can train and execute. Given the network connectivity of the future force, these requirements will only enhance any commander's ability to plan and conduct operations.

The comparison of the MDMP and RPD shows the fundamental difference between planning and decision making. The MDMP supports planning operations and results in an operations order or plan and is thus made up of numerous decisions about how the plan was made. The RPD and proposed Recognition Primed Model (RPM) are representative of decisions, not plans. This monograph further explores why analysis of the situation in unfamiliar and complex environments, as represented by the contemporary operating environment (COE), will continue to be necessary using MDMP while some instances of operations that are less-complex or are familiar and even routine require an RPD approach.

This monograph concludes that the MDMP need not be discarded nor that the RPD need to be adopted as-is. Rather, the integration of course of action development and wargaming earlier into the process, by overlapping with mission analysis, lends to a formal acknowledgement of how commanders input their experience into the process. A conceptual model is presented to explain how parallel, simultaneous, distributed, and collaborative planning in the future force will be better served with this planning and decision making framework. Lastly, specific recommendations to formalize adaptive leadership development that increase an officer's experiential database in both the institutional and organizational Army is given to develop those leadership traits and abilities that support planning and decision making in the future force.

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CHAPTER ONE: Introduction and the Issues at Hand

Warfare in the 20th century continued to exhibit the effects from the Industrial Age of the 19th century, most notably the increase in technology that made the rise of complexity involved with the advent of new systems. Systems changes in transportation, communication, mechanization and others all changed the conduct of warfare in relatively short order. In the past century, warfare saw the innovations brought about by armored and mechanized warfare, the advent of airpower, submarine warfare, the strategy of nuclear deterrence, chemical weapons, better tactical combined arms, and a whole host of other innovations and improvements. The 20th century was unlike any before it in that there were arguably exponential leaps in technologies that advanced warfare faster than any other comparative time in history. Combine this with the current argument that warfare is changing from the Industrial Age to the Information Age, with its associated differences in technology and complexity and one sees that warfare today is an extremely complex endeavor.

Where this leaves the military professional in 2004 is with the basic problem of how to address the ever-increasing complex nature of war from the aspect of battle command. In other words, how does a commander plan, prepare, and execute warfare given a whole host of systems with which he must control, or at least understand the impact of, in order to achieve success faster than your thinking enemy? How does the commander conduct battle command with the needs to visualize, describe, direct, and lead in the contemporary and future operational environments? What are the critical decision making tools a commander a commander will need?

The answer to these questions for the U.S. Army has been and continues to be the military decision making process (MDMP). As defined in the current FM 5-0, *Army Planning and Orders Production* (final draft), the MDMP “is a planning tool that establishes techniques for analyzing a mission, developing, analyzing, and comparing courses of action against criteria of success and each other, selecting the optimum course of action, and producing a plan or order”¹ This definition, however, does not imply that the U.S. Army has only recently formalized a decision making process. On the contrary, the current MDMP is an evolution of planning tools that have been changing in U.S. Army doctrine for a number of decades. For example, Major Eben Swift, while serving as Assistant Commandant of the U.S. Staff College at Fort

¹ U.S. Army Field Manual 5-0, *Army Planning and Orders Production [final draft]* (Washington, D.C.: Government Printing Office, 2003), p. 3-1. This is the most current definition of the MDMP and describes how the process is “a tool” and that it is obviously analytical decision making.

Leavenworth, KS in 1906 describes the five-paragraph field order, which is remarkably similar to the current five-paragraph operations order today.² Likewise, the 1932 version of the U.S. Army *Staff Officer's Manual* describes a format for the commander's estimate: the tool by which the commander makes decisions in his organization.³ The recognition to address planning and the creation of decision making tools and processes therefore is not new. More importantly, we must consider whether such decision making tools as the MDMP, specifically its analytical nature, are still viable for the Army Future Force or if there is a better way to solve problems in Army organizations.

Problems and Confusion With the MDMP

To understand military decision making then is to understand that decision making itself is a matter of choosing from between options: making judgment upon them and picking the best option. As written by Philip Marvin in his book, *Developing Decisions for Action*, "decision making isn't a matter of arriving at a right or wrong answer; it's a matter of selecting the most effective course of action from among less effective courses of action".⁴ In addition to acknowledging this definition, FM 5-0 adds, "Deciding involves knowing if to decide, then when and what to decide, and understanding the consequences."⁵ This itself implies less-than-perfect information with developing a course of action. If your information was perfect with 100% fidelity, there would be no decision between multiple options to choose from: the decision is already made for you. In the military, this is never the case. There are usually multiple ways to solve tactical problems and operations, as there are always constraints in resources, capabilities, and time. This inexorably links decision making and problem solving in the military. Military organizations are given tactical and operational problems to solve, they must determine the best ways to solve the problem, make the decision as to the best method to solve the problem, and then execute as a plan.

The MDMP then is the standardized way for staffs across the different echelons to assist their commanders with solving their tactical problems. This standardization is important, as

² Maj Eben Swift, *Field Orders, Messages, and Reports* (Washington, D.C.: U.S. Government Printing Office, 1906), 17

³ U.S. Army *Staff Officer's Field Manual Part One: Staff Data* (Washington, D.C.: U.S. Government Printing Office, 1932), 28.

⁴ Philip Marvin, *Developing Decisions for Action* (Homewood, Illinois: Dow Jones-Irwin, inc., 1971), 59.

problem solving processes for staffs must be compatible for the various task organized echelons so better to create immediate understanding of how to solve tactical problems. It only creates friction if every unit standard operating procedure (SOP) for planning is vastly different. This standardization in doctrine is evaluated in units rotating through the combat training centers (CTC's) and in many cases the analysis of why missions fail at CTC's are drawn back to some faulty execution of the doctrine of MDMP.

The confusion with the doctrine of MDMP is that it looks extremely prescriptive and detailed. To many leaders and units, the MDMP is a highly complex process in itself that incorporates multiple staff estimates, continuous input from Intelligence Preparation of the Battlefield (IPB), and the outcome is usually a very detailed operations order that no one reads or uses. In fact, many complaints from commanders and their staffs on the MDMP is that the process is too cumbersome, too prescriptive, only conducive when the staff is very well-trained, not realistic for the real world, and not timely with regards to giving subordinate units what they need to plan themselves.⁶

Others in both academia and in the military have expressed that analytical problem solving, as expressed by the MDMP, is not natural and that people don't make decisions in the very prescribed format of deep analysis and courses of action consideration that the MDMP dictates. MDMP, then, is rational choice making and can work for those individuals and organizations that have limited experience. Naturalistic decision making (NDM) is how many have expressed decision making that involves the individual who makes decisions based upon judgment and intuition, both of which are born of experience. Many argue that NDM is a better model for making most decisions, at least by individuals who have to solve problems. NDM is therefore a rallying flag for those as described above who have habitually complained about the problems associated with MDMP. Therefore, two general schools of thought have emerged in recent times to address military problem solving: the analytical school and the naturalistic/intuitive school. To use Dietrich Dorner's language from *The Logic of Failure*, the two schools can be seen as those who don't wait for more information and conduct "ballistic decision making" and those who do "paralysis by analysis", with overanalyzing a plan that is

⁵ U.S. Army Field Manual 5-0, *Army Planning and Orders Production [Final Draft]*(Washington, D.C.: Government Printing Office, 2003). p. 1-12.

⁶ Daniel P. Bolger, *The Battle for Hunger Hill* (Novato, CA: Presidio Press, 1997), 164-168.

never good enough.⁷ While many claim to be firmly planted in either school, the object of this study is to determine whether one is more viable than the other or if there is a need to make a new campground elsewhere that combines elements of these two problem solving procedures.

FM 5-0 (final draft) recognizes this friction for the first time. In previous doctrine, MDMP was addressed as an analytical tool for making decisions, which in itself is both an art and science.⁸ Now, inclusion of the advantages and disadvantages for both the MDMP and NDM are addressed. This goes a long way to address many of the issues argued for by opponents of the MDMP, namely that commanders are responsible for their decisions. It also reveals two key traits in a commander. One, that each commander receives and processes data requirements for decisions differently and thus has different staff requirements to make decisions and secondly, that experienced commanders may need less analytical, formal and rational processes for making their plans than other commanders. Some commanders express a more internal and intuitive feel when approached with a problem and quickly visualize how to solve it. These commanders thus have voiced the most opinions against using a formalized MDMP and use more timely and direct-input planning with less staff analysis prior to making tactical decisions. In addition, the time available and experience level of the staff are also given as explanations for when NDM or MDMP is more viable as a decision making tool.⁹ So decision making has progressed beyond “if”, “when”, and “what” to decide: the commander must also consider the “how” to decide.

MDMP: A Tool from the Woodshed

Today’s Army leaders are required to make decisions given vague information, guidance, and resources and be expected to win against a thinking enemy. This is recognition of the Contemporary Operating Environment (COE) and its impacts on Army operations.¹⁰ As stated earlier, the COE is a very complex environment where threat and enemy systems are multiple and extremely difficult to predict. There are a multitude of environments and terrain across the globe that Army forces are expected to fight in at any time. After 50 years of operating under the conditions of the Cold War strategic environment, the Army now finds itself having to

⁷ Dietrich Dorner, *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations* (New York, NY: 1996), 177.

⁸ Department of the Army Field Manual 101-5, *Staff Organization and Operations* (Washington, D.C.: Government Printing Office, 1997), 5-1.

⁹ Department of the Army Field Manual 5-0, *Army Planning and Orders Production [Final Draft]* (Washington, D.C.: Government Printing Office [GPO], 2003), 1-13.

¹⁰ N/a. *COE White Paper* (Fort Monroe, VA: TRADOC, Department of the Army, n/d), 2.

be ready against possibly more diverse threats from around the globe and even the homeland. All of which adds to the complexity of making decisions in this type of environment.

The MDMP is a seven step analytical process. Beginning with step 1, Receipt of Mission, and continuing through step 7, Orders Production, the MDMP is the established doctrinal framework for problem solving to be used by staff organizations from battalions through corps headquarters.¹¹ As shown in the chart below, the MDMP considers input and analysis from across the staff to inform the commander of what he needs to make a decision as to how best to solve the problem. The MDMP found its current format during the Cold War. It has changed in minor ways, but essentially remains a similar analytical problem solving model that has been used for several decades. NDM and models such as Klein's Recognition Primed Decision Making (RPD) are more recent methods and as such are competing tools with which to solve problems and make decisions. To address whether the MDMP is still currently viable in the context of this new strategic environment as outlined by the COE, we must ask what the MDMP is supposed to do for the commander and organization and is NDM or other processes more viable? In other words, what needs does the commander have for battle command: those actions taken against a hostile, thinking enemy?¹²

¹¹ U.S. Army. *Field Manual 101-5 Army Staff Organization and Operations*. (Washington, D.C.: U.S. Government Printing Office, 1997), vii.

¹² Department of the Army Field Manual 3-0, *Operations*. (Washington, D.C.: Government Printing Office [GPO], 2001), p. 5-12. This definition of battle command explains why decision making is different in the military. Administrative decisions would not require an MDMP approach, for example.

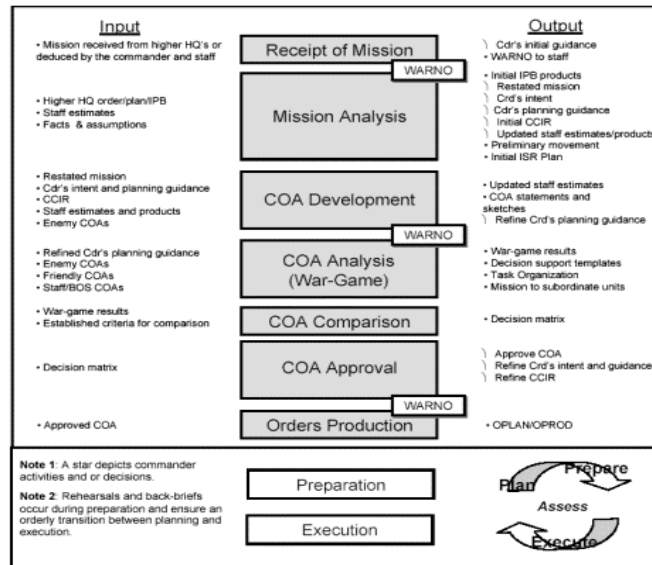


Figure 1: The MDMP in 2004

The Commander's Need for Decision Making and Planning

Any commander requires timely information and even experiences to make decisions for his organization. It is likewise simplistic to believe that any one commander from Army battalion through corps is capable of analyzing and addressing every factor of friendly, enemy, and environmental systems on his own. Peter M. Senge, in his book, *The Fifth Discipline*, notes:

“It is no longer sufficient to have one person learning for the organization, a Ford, a Sloan or a Watson. It's just not possible any longer to figure it out from the top and have everyone else following the orders of the ‘grand strategist’”.¹³

What Senge is telling us is that the commander has to operate in a variety of complex systems. The acknowledgment of this fact in the first place is the existence of staffs to support the commander. Staffs exist to support the administrative needs of the organization and the tactical needs of the commander's battle command. As such, any commander requires some level of staff analysis to help aid in decision making and he will need some way to convey his plan to subordinates.

¹³ Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York, NY, Currency and Doubleday, 1990), 4.

Any commander, therefore, has specific needs to address decision making, regardless of the method or means of making the decision. To compare the relative value of either the MDMP or NDM models and to determine overall a best-suited decision making model for the Army's future force, we will consider the following needs of the commander as evaluation criteria:

- Battle Command
- Synchronization and Synergy of Effects
- Flexibility
- Standardization of Process

Battle command is at the same time a subjective criterion with objective, quantifiable requirements for military operations. Any decision making process must be able to accommodate input from the commander and the analysis required by an organization and its staff in an integrated procedure. Battle command runs the gamut of information and intelligence processing and dissemination (IPB), tracking and monitoring current information and operations such as commander's critical information requirements, and the need to plan operations deliberately to maximize the effectiveness of limited resources tasked to the problem.

Synchronization is defined as: arranging activities in time, space, and purpose to mass maximum relative combat power at a decisive place and time.¹⁴ This is a key tenet of Army operations and is essential to maximizing the effects of overwhelming combat power at the decisive point. It is also key during stability and support operations to maximize the effectiveness of combat, combat support, combat service support, and information operations. Further, FM 3-0 states "synchronization often requires explicit coordination and rehearsals among participants".¹⁵

Synergy is a further application of synchronization. Synergy is defined as: the combined action of two or more substances or agencies to achieve an effect the sum of which is greater than any individual whole.¹⁶ Beyond timing of combined arms integration, the effect of synergy maximizes complementary and reinforcing effects of the battlefield operating systems. To plan for such effect requires detailed integration planning that can only result from some formalized procedure that dictates the schedule and actions of combined arms to achieve complementary and synergistic effects.

¹⁴ Headquarters Department of the Army Field Manual 3-0, *Operations*. (Washington, D.C.: Government Printing Office [GPO], 2001), 4-17.

¹⁵ Ibid., 4-17.

¹⁶ Webster's Collegiate Dictionary (2001), s.v. "synergy".

Flexibility describes that our decision making process should be a valid tool that can be used by the same organization across the full spectrum of conflict, from offense and defense operations to stability and support operations and can be tailored or modified as required. If not, the potential for the same organization to have several different decision making processes trained to a high standard may become problematic. For example, an infantry brigade may be given a real world deployment order and follow on mission of executing foreign internal defense training for an emerging nation state. Arguably, most infantry brigade commanders and their staffs are not already capable of intuitively determining a definite course of action for this mission rapidly. Flexibility in the process allows that commander to require objective and focused analysis by his staff to determine the best possible courses of action.

Flexibility in the planning process also accounts for subjective or experienced analysis by a commander and allows the process to be tailored to the leadership and even personality style of the commander.

Standardization of a process is important in that all organizations must use a similar problem solving model as the basis for common language internal to the Army and to achieve joint operability. The Army's future force, much like the current force, must have some semblance of standardization for planning to be effective as the primary contributor to the land component. Given current mission requirements for various tactical echelons to conduct full spectrum operations and thus the need to be able to task organize and force tailor operations to maximize efficiency and combat power, a standardized planning process will be essential.

If a unit has never worked with or for a current commander and suddenly finds that it is task organized for a mission or operation, it is obviously beneficial to understand a baseline for how the unit plans operations. Without standardization, each echelon, unit, and commander could feasibly derive its own planning process and thus be incompatible to the point of being dysfunctional with any other organization.

In summary, warfare has evolved into a highly complex interaction of systems that is virtually impossible for one person to control. Therefore, a planning and decision making process that addresses complexity is required by a commander now and in the future. The Army's problem solving approach using the MDMP has changed little in recent times, though competing processes of naturalistic decision making have developed. But a basic argument has risen that

analytical models such as MDMP do not accurately reflect how true decisions are made.¹⁷ What has not been determined is first, what does the commander need to make decisions in the COE and does the MDMP currently address this? If not, do other naturalistic models, such as the Recognition Primed Decision Making model, better address the commander's needs for decision making in the future? Using our established evaluation criteria, we will determine through the rest of this monograph if one or the other process better suits the commander in the Army's future force or even if there is a need to develop a wholly new decision making and planning model.

¹⁷ Gary A. Klein, *Sources of Power* (Cambridge, Massachusetts: MIT Press, 1999), 101. Dr. Klein's work in the field of intuitive decision making has led the arguments against using a rational choice or analytical model strategy for decision making. Dr. Klein's research shows that people don't actually make decisions by comparing multiple options, but rather use experience and judgment to make the best decision possible regardless of time constraints. It is this work and others that is held up to counter current military decision making doctrine and processes.

CHAPTER TWO: Future Force Battle Command and the Needs of the Commander

The Army's Future Force (formerly the Objective Force) is a direct response to relevance in the Contemporary Operational Environment.¹⁸ No longer is the U.S. Army focused on Cold War tactics and operations against a known threat as this templatable enemy has mostly ceased to exist. The U.S. Army Objective Force White Paper further outlines the concept for the tactical level of war of the Future Force as "See First, Understand First, Act First and Finish Decisively".¹⁹

At first glance, this would appear to be a paradigm shift that moves Army tactics away from the movement to contact paradigm where friendly units move to make contact, fix the enemy and develop the situation, and then maneuver to complete his destruction. When you compare this concept with existing Army doctrine for combined arms battle today there does exist a fundamental difference in close battle.²⁰ This shift is very explicit in that emerging technologies will replace the need for commander's to gain situational awareness prior to acting: he will already have access to relevant terrain, friendly, and enemy information systems and analysis. This will be accomplished from remote and distant ISR systems in concert with more traditional HUMINT systems to "paint the picture" of the enemy well out of friendly contact.²¹ If the concepts raised in the white paper for the Future Force can be attained, the obvious issue then is the impact this will have on the art and science of battle command. In other words, if the commander has this near-perfect intelligence of the enemy's capabilities, disposition, and intent then what needs will the commander still have for battle command in general to affect this

¹⁸ U.S. Army White Paper, "Concepts for the Objective Force" (Fort Monroe, VA: Government Printing Office, 2001). This paper outlines the concepts required of the Army's Future Force. Presented in 2001 by then CSA Gen Shinseki, the paper describes the basis for the Army's need to transform: that our emerging threats dictate we transform and that old methodologies of training, doctrine, deployment, etc. are no longer effective as they were in the Cold War.

¹⁹ Ibid, p. 7-8. This is the paradigm shift that envisions near-perfect knowledge of the enemy's disposition, in all types of terrain, so as to better assist battle command for leaders of the Future Force.

²⁰ Department of the Army Field Manual 7-30, *The Infantry Brigade* (Washington, D.C.: U.S. Government Printing Office, 1995), 4-7. A description of the battlefield framework in multiple doctrinal manuals shows the traditional maneuver of movement to contact is to find, fix, and then finish the enemy. Future force concepts describe that finding the enemy won't be a part of the maneuver element through physical contact and neither will be fixing the enemy by making direct contact. Precision maneuver will take away the need to find and fix the enemy and simply maneuver upon the enemy force in a manner from which they cannot recover.

²¹ U.S. Army White Paper, "Concepts for the Objective Force", 6.

enemy? More specifically, what planning and decision making issues are affected or enhanced by this shift?

To answer our first question here requires us to visit current understanding of the battle command concept beyond what was outlined in the previous chapter. It is important to understand the concept itself beyond its simple definition we have already cited from FM 3-0.

Visualize

At the heart of battle command is skilled judgment and the art of command itself. FM 3-0 acknowledges that commanders must use their experience, wisdom, and judgment in order to visualize, describe, direct, and lead operations:

“Using judgment acquired from experience, training, study, and creative thinking, commanders visualize the situation and make decisions. In unclear situations, informed intuition may help commanders make effective decisions by bridging gaps in information.”²²

In the visualize stage of battle command the commander concerns himself primarily with understanding the nature and design of the operation in context to the mission he has received. He considers such things as battlespace, area of operations, elements of operational design and staff estimates with which to fully understand the problem given to him and his organization. To support the commander’s visualization, the staff prepares its estimates as well as detailed analysis commensurate with identifying and understanding the military problem all in order to fully understand the situation and have a firm ability to plan the operation. In the current MDMP, this is Step 2, Mission Analysis. It is here where the staff receives initial guidance from the commander on the help he needs to conduct his battle command and thus includes much more than just the means to produce an operations order.

An important outcome of the visualization process is the concept of the shared vision. That is to say, the commander must communicate his understanding of the mission and operation and develop his intent as to how to solve the now identified military problem facing his organization and the staff must fully understand it.²³ This is more technically done in the describe

²² Department of the Army Field Manual 3-0, *Operations*. (Washington, D.C.: Government Printing Office [GPO], 2001), 5-2.

²³ Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday, 1990), 206. Without knowing where the organization is supposed to go

portion of battle command, but the genesis of what to describe obviously begins with the visualization process of the commander. This concept of shared vision is important because it is the basis for understanding the commander's intent. During execution, a shared vision of what is to be done and why is a key and essential condition between a commander and his staff, much less the subordinate leaders who execute the shared vision.

While Army doctrine relies on the experience of the commander, the staff's primary function is to process and analyze pertinent information so that the commander can make informed decisions.²⁴ This means that the other half of the equation of a shared vision is the necessity for relevant and focused staff analysis of the enemy and friendly situations and the understanding of the battlefield environment and its effects upon current operations. In other words, the commander and his staff must be on one page with regards to understanding their mission, intent and concept from higher, the initial intelligence preparation of the battlefield's (IPB) analysis so necessary to begin planning, and the friendly assets available for mission accomplishment along with the limitations/constraints for their use.

Communicating an understanding of what the commander wants is critical in the battle command process. Here the commander drives his focus for planning, reconnaissance, commander's critical information requirements (CCIR), and how he sees the environment as it currently exists. This is important as he is sharing his internalized experience and now judgment with the rest of the staff. This is the focus the commander gives for the staff to better assist him in decision making now and in the future in relation to the military problem presented. Sharing the vision is essential in that it is most likely that the staff will not possess the level of expertise resident in the commander nor will the commander possess all the relevant and necessary information with which to make decisions in a very complex and fluid environment.

Any thoughts given to the future force and the needs for visualization will remain as relevant in the future as it is today and has been in the past. In spite of technology and the ability to "see first", the commander will still require of his staff some analysis of the picture he is literally seeing in front of him. Simply, increased technologies, particularly in the ISR arena, do not abdicate the need for staff analysis. For example, the commander and staff will have to focus

(commander's visualization), it is hard to focus and energize the unit to accomplish its necessary tasks in order to achieve this vision. Shared vision implies that the entire organization is committed to the goals of the organization and, most importantly to staff planning, knows what way points to monitor in terms of progress. Shared vision is shared understanding of the mission and how it is to be solved.

the effort of reconnaissance to “see first” in the visualization process much as is done today. ISR assets may see groupings of three people in an urban area in nighttime conditions. It requires analysis to determine if this group fits a pattern or profile of a hostile threat. The difference is that in the future, more enablers will provide the common operational picture that will aid in planning and decision making. But simply achieving the tactical concepts for the Army’s future force will not replace a commander’s needs to visualize the operation before him and the necessity for focused staff analysis with which to begin relevant planning to bring the commander’s visualization to successful fruition.

Describe

Now that the commander has expressed his visualization of the operation before him, he continues to express his shared vision by communicating his intent, both for planning and for the operation itself. A commander must have an understanding of what is to be done and why it is to be done before commander’s intent for an operation can be described. This is an essential component of the entire battle command process in that the commander’s intent is the framework upon which any course of action is planned. It is this description of how the commander sees mission success as framed by time, space, resources, purpose, and action.²⁵

As with the visualization process, the need to describe what the commander wants and how he intends to focus his operation will not change in the Army’s future force. This will still be a fundamental command responsibility. The need to frame operations in decisive, shaping, and sustaining elements and the need to convey commander’s overall intent for the operation can safely be argued a necessity in the future as they are today. For example, even with 100% fidelity of enemy positions in a deliberate defense in an urban area, it is virtually impossible to predict the actions of human behavior 100% of the time. In the close fight, generic enemy courses of action are good for planning, but unexpected branch plans conducted by the enemy still require our plans to be flexible. In other words, it is simply not a matter of having the shared vision and everyone having a computer screen up with a common operational picture of friendly and enemy units. It will still be important in the Army’s future force to stay focused using the commander’s intent: that is, focused on the key tasks and conditions that get the unit to the end state of its

²⁴ Department of the Army Field Manual 6-0, *Mission Command: Command and Control of Army Forces* (Washington, D.C.: Government Printing Office [GPO], 2003), D-2.

²⁵ Department of the Army Field Manual 3-0, *Operations* (Washington, D.C.: U.S. Government Printing Office, 2001), 5-4.

operation. Armed with this, subordinate units can exercise the responsible initiative necessary to maximize opportunities as they arise and preclude enemy advantages from occurring.

The real impact then is making the describe portion of battle command better with emerging technologies. Thomas Killion in an article “Decision Making and the Levels of War”, notes that real-time decision-aiding technologies will enhance parallel planning “to a degree not possible previously, enabling more analytic planning and replanning.”²⁶ By enabling the staff and even subordinate commanders better able to plan simultaneously and in parallel, the commander can have more timely analysis and plans made available. The specific effects of parallel and collaborative technologies will be discussed in more detail in chapter five.

Direct

To direct is to impart leadership and action into a military purpose. According to FM 3-0, direct as a function of battle command is concerned with the importance of synchronizing combat power across the battlefield operating systems (BOS).²⁷ To direct simply means putting all of the previous efforts of battle command together and executing as a plan. Planning, preparing and executing are key to directing military action. This also lends itself more into the science of battle command, through deliberate synchronization in time and space of units and efforts, versus the art of battle command present in the visualize and describe phases previously discussed.

The need to direct action will remain with the Army’s future force. For example, subordinate units will always need guidance or a plan to initiate action to achieve a military purpose. Call it an operations order, directive, or FRAGO but units will need something that describes what it is they are supposed to do and to synchronize the effects of all available assets. The commander then needs a command and control system that enables this to happen. A commander will thus need a staff of experts that can devise the details of the plan and coordinate their action for synchronization and synergy of effects. Knowing where all friendly and enemy units are on a screen does not equal synergistic effects. It is simply the precursor to understanding the environment. There is still the need to plan, in whatever context, and synchronize the operation in time and space to achieve the unit’s purpose. Again, emerging

²⁶ Thomas H. Killion, “Decision Making and the Levels of War,” *Military Review*, November-December, 2000, 68.

²⁷ Department of the Army Field Manual 3-0, *Operations* (Washington D.C.: U.S. Government Printing Office, 2001), 5-4.

technologies hold great hope in increasing the potential for synchronization and synergy, but the need to describe military action by the commander to subordinates to execute will be as relevant in the future force as it is today.

The need for battle command as defined by visualizing, describing, and directing will not disappear in the Army's future force. The requirements to conduct battle command against a hostile, thinking enemy in a complex, uncertain environment do not disappear with the advent of more and better electronics. But to further assess to commanders needs in the battle command process, we must address some more specific functions the commander needs in the process of battle command itself.

Intelligence Preparation of the Battlefield (IPB)

As mentioned earlier, the need for continuously updated IPB is not going away in the Army's future force. In fact, the ability to define the battlefield environment and describe the battlefield's effects will most likely get easier with increased digitization systems. But it will be much harder to describe the threat and determine threat courses of action in the future against an enemy that hasn't a doctrinal template or does not act in totally predictive manners. A commander cannot do this wholly on his own. He must have systems to address the ability to pick up on indicators of enemy activity to do any sort of predictive analysis.

It is important as well that IPB "is a continuous and systematic approach of describing the battlefield environment and determining threat courses of action."²⁸ The battlefield environment is constantly changing; the enemy is constantly changing, moving, or conducting other activities we'd like to know about. As such, a system must be in place to support updates over time as to how the environment is changing (such as weather and the use of terrain) and of course how the enemy is conducting operations. This constant and fluid environment means that IPB is a circular process and as such must be incorporated into the planning process throughout. In other words, a commander's battle command itself isn't linear and must account for changes and updates with respect to enemy and the environment as well. So battle command, in spite of the linearity of phases of visualize, describe, and direct is itself a circular and continuous process where information updates that is useful intelligence gets fed back into the commander's battle command process and he can update, modify, or change the friendly situation as required.

²⁸ U.S. Army Field Manual 34-130 *Intelligence Preparation of the Battlefield* (Washington, D.C.: U.S. Government Printing Office, 1996), p. 1.

This process described is not new nor is it likely to disappear with our ability to conduct precision maneuver in the Army's future force. The key is that there will still be a constant influx of information, but it will most certainly happen faster and in much greater volumes. And much more IPB information will arrive as well. All of which places emphasis on the commander to have a system to incorporate IPB changes into the planning process as a result of changes to battle command.

Tracking and Monitoring

As hinted at above with IPB, the commander has the need to track and monitor updates to the planning, preparation and execution process of his mission. For example, the commander has to have systems in place to ensure that he devises a flexible plan rapidly so that subordinates can maximize their own valuable planning and rehearsal times. The commander likewise must have systems that assist him with control during execution. Control is essential to synchronize and synergize the effects of the unit's combat power at the decisive place and time in an operation. For example, the commander plans to synchronize close air support (CAS) on an expected enemy position in relation to friendly forces. There is a very specific necessity for control and timing of the aircraft's combat power upon the enemy. Control does not happen by itself: measures must be in place to assist the commander's battle command so that control is a seamless procedure during operations.

Likewise, the need to track and monitor updates during execution are important to support CCIR that may influence decisions the commander has yet to make. In other words, the knowledge of the decisive operation being attrited to 50% combat power may impact the commander's ability to continue with the mission as is or necessitate the execution of a branch plan. Decision points that feed into CCIR are only acknowledged when there is a system in place to monitor and track the fight. In this, the staff goes beyond the ability to assist in planning, but helps the commander control the fight during execution and helps the commander husband and protects his very limited resources. In this, the staff helps the commander realize and understand when those decision points in time and space are reached. The decision of what to do about it is still in the commander's hands: and he can decide to do nothing and continue to let the plan unfold, for example. But the staff assists the commander in this function and the MDMP, as an integrated and continuous process is the basis for planning when these decision points are likely to take place.

The Targeting Process

The targeting process, as outlined in FM 6-20-10, describes how a commander strikes against high-payoff targets on a continuous basis that support the accomplishment of his mission.²⁹ The targeting process is used to assist the commander's concept of the operation by denying the enemy specific combat power capability, either through lethal or nonlethal means. It is in itself not a substitute for a plan or a concept of the operations, but rather assists the commander in bringing combat power against the enemy. If used correctly, the targeting process is a combat multiplier. If used incorrectly, it is substituted for a deliberate planning process that is devoid of battle command:

“Attrition becomes the default solution to the problem posed by the enemy. The targeting process, when used in lieu of the MDMP, tends to cause units to focus on wearing the enemy down rather than knocking him out”.³⁰

The Army's future force will be able to conduct the targeting process with a precision and massing of effects heretofore unknown. Many of the targets will be affected out of contact with future forces (at least ground maneuver forces) and the cybernetic and psychological incapacitation may in themselves be decisive at some levels.³¹ But it remains inconclusive that such theories of warfare that rely primarily on precision munitions and technology to attack enemy centers of gravity will always be successful. It is more likely that such targeting will continue to shape decisive operations for Army future forces and will thus remain a very relevant item in the commander's inventory. Thus the necessity to develop a concept of operations and plan those operations will continue into the future of combat.

Planning

Finally, we must discuss the necessity for any organization to plan operations for its immediate and future requirements. Planning is the means by which the commander envisions a

²⁹ Department of the Army Field Manual 6-20-10, *Tactics, Techniques, and Procedures for the Targeting Process* (Washington, D.C.: U.S. Government Printing Office, 1996), 3.

³⁰ Joseph S. McLamb, “Is it time to Abandon the Military Decision Making Process?,” *Military Review*, March-April 2002, p. 100.

³¹ Edward C. Mann, III et. al., *Cadre Paper 15: “Thinking Effects: Effects Based Methodology for Joint Operations”*, (Maxwell AFB, Montgomery, AL: Air University Press, 2002), 43. The authors argue that an effects-based approach to targeting and predicting second- and third-order effects of

desired outcome, lays out effective ways of achieving it, and communicates to his subordinates his vision, intent, and decisions, focusing on the result to be achieved.³² As defined, planning is a necessary component of conducting battle command. Planning is how the commander describes what is to be done and to what purpose. It is the expression of synchronization and synergy of effects so that limited resources are maximized and not wasted. Planning ensures maximization of the overwhelming effects of combat power at the decisive point in order to achieve the unit's purpose. Planning is the ultimate expression of the commander's shared vision and the vehicle through which he conducts battle command.

Planning and decision making are thus complementary: you can make decisions during planning (such as, which friendly COA to adopt) and you can plan to make decisions during execution (such as, Targeted Areas of Interest and decision points). Thus the commander will still need a system with which he can develop a course of action, disseminate as a planned operation and develop the controls necessary for its execution.

As we have already argued, the function of battle command will not disappear in the Army's future force. Units will still need leaders to articulate their vision and provide leadership to accomplish the goals of the unit. Therefore, planning operations in time and space will also still be required of organizations. Again, the commander's intent will drive the planning process by providing the focus necessary to develop a plan that is feasible, suitable, and acceptable to mission accomplishment.

In addition, commanders will still be required to conduct battle command and everything this entails in a more complex environment. Therefore, it is logical that a planning process exists that supports these needs of a commander now and in the future. In 2004, this model is the military decision making process (MDMP) as described in FM 5-0. We must now ask ourselves, now that we have identified the needs of a commander and his organization for the future, is there a requirement to change the fundamental planning, preparing, and executing process, the MDMP, in favor of another that better addresses these needs of the commander?

It is first necessary to step back and understand why the current MDMP is in existence, how it came to be the Army's primary planning and decision making process, and what this rational model does for current tactical commanders in the Army. Only understanding the current

psychological targeting of enemy forces' centers of gravity can lead to a more rapid and cost-effective method of warfare.

³² Department of the Army Field Manual 3-0 *Operations*, (Washington, D.C.: U.S. Government Printing Office, 2001), p.5-19.

MDMP in connection with the needs of the future force commander is we going to be able to discern the delta of difference between what exists and what is needed for decision making, planning, and problem solving in the future force.

CHAPTER THREE: Why the MDMP?

Now that we have determined what a commander needs in the Army's future force, it is time to look at what the military decision making process is, what it supposed to do, and how a rational, analytical form of decision making became the model for Army planning and operations.

How We Arrived Here

The U.S. Army has utilized decision making models going back to the eve of World War I.³³ Since this time, the Army has continued to update organizational decision making and planning models based upon analysis of the situation. By the 1984 version of FM 1015, *Staff Organization and Operations*, the commander and his staff conducted simultaneous estimates with which to identify the military problem and develop a course of action once considering a high level of analysis.³⁴ This continued with the 1997 version of FM 101-5, whose update resulted from detailed analysis of accounts from CTC experiences and other TRADOC institutions such as the Command and General Staff Officer Course (CGSOC) and the School for Advanced Military Studies (SAMS) to further define tasks to be performed by the staff and commander in the MDMP. It had been 14 years since any official published doctrine on Army planning, decision making, and orders development. In this time, the Cold War ended, our Army conducted OPERATION JUST CAUSE, OPERATION SHIELD/STORM, and had conducted operations in Somalia, Haiti and the Balkans, just to highlight the major deployments. In fact, there had been a 300% increase in OPTEMPO deployments by USAREUR since the fall of the Berlin Wall.³⁵ These real-world operations were very diverse and spanned the full range of military actions, from stability, support, offense and defense operations. In addition, the increasing capabilities in terms of command, control, computers, intelligence, surveillance, and reconnaissance (C4ISR) brought more complexity with the advent of new systems to the battlefield. Thus, the strategic environment changed dramatically, as well as the operational and

³³ U.S. Army Field Service Regulation (Washington, D.C.: U.S. Government Printing Office, 1914), 6.

³⁴ U.S. Army Field Manual 101-5, *Staff Organization and Operations*, (Washington, D.C.: U.S. Government Printing Office, 1984),

³⁵ Jeffrey L. Thomas, et. al., "It Cuts Both Ways: Differential Relations Between OPTEMPO and Performance in the U.S. Army", Presentation to the American Psychological Associations Annual Meeting, San Francisco, 27 August 2001. The increased OPTEMPO in the 1990s was seen dramatically in USAREUR units. Not only had the German Defense Planning focus changed with new missions and operations, but Army units in Europe deployed more often than in all of the Cold War.

tactical realms of military operations, in a time period where more and more capabilities and systems were developed.³⁶ In short, a lot had been experienced in the Army in the 1980s and 1990s and the doctrine needed to keep pace with the changing security environment faced by tactical commanders.

The 1997 version of FM 101-5, more than any other, codified today's MDMP. Also included were detailed sections on commander's intent, the decisive point in operations, and commander's critical information requirements (CCIR). Expressly stated was the fact that the MDMP is "an adaptation of the Army's analytical approach to problem solving."³⁷ Additionally, the goals of the MDMP were to "identify the best possible friendly COA", to produce "the greatest integration, coordination, and synchronization for an operation and minimize the risk of overlooking a critical aspect of the operation", and, "result in a detailed operation order or operation plan".³⁸ According to the 1997 version, the only acknowledged drawback to the MDMP is that it is a time consuming process and in fact detailed several techniques to save time in planning and producing orders. These included increasing the level of commander's involvement and by having the commander give a directed [one] friendly course of action to wargame.³⁹ In other words, the 1997 version addressed the issue of the MDMP as too time-consuming a process, which had been identified and amplified by field leaders, by placing the burden of a shortened process on the actions of the tactical commander.⁴⁰ However, there still existed a cognitive tension between the doctrine of procedure and the decision making realities of the commander in the field.

In 2004, there is a final draft of FM 5-0, *Army Planning and Orders Production*, which is to replace the 1997 FM 101-5, *Staff Organization and Operations*. This is the next step in the evolution of the MDMP and acknowledges several things. First, the opening chapter describes the art of planning while chapter two is devoted entirely to problem solving and decision making

³⁶ The developments of digitization and impacts upon C4ISR grew dramatically in the 1990s. Force XXI developments tested operational concepts for digitized future forces. In addition, more military systems such as unmanned aerial vehicles (UAV's), JAVELIN anti-armor system, and global communications platforms were added to name a few examples of enhancements to combat power and potential.

³⁷ FM 101-5, 1997, p. 5-1.

³⁸ Ibid., p. 5-1.

³⁹ Ibid., p. 5-26.

⁴⁰ Ibid., p. 5-27. Although FM 101-5 does discuss the role of the staff while conducting MDMP in a time-constrained environment, it is entirely dependent upon the commander's actions. In fact, the staff is cautioned to "...not develop and analyze COAs without specific guidance and approval from higher headquarters".

as separate concepts. This is tacit acknowledgement of the conceptual nature of planning and decision making by individuals and organizations. This means the Army has now recognized the differences between problem solving, decision making, and planning. While Marine Corps Doctrinal Publications 5 & 6 have acknowledged these facets and their relationship for several years, the Army has only recently acknowledged the intuitive and naturalistic decision making processes.⁴¹ Most importantly, FM 5-0 addresses naturalistic and intuitive decision making and acknowledges the conditions under which these are most appropriate.⁴² So, emerging Army doctrine is finally acknowledging the differences between individuals (commanders and leaders) making decisions versus organizational decision making (including staffs and subordinate leaders).

Why, Then, A Rational Model for the MDMP?

As stated in FM 5-0, the MDMP in its current form then is designed to provide the commander and staff with a tool, not a solution, to be applied across the spectrum of conflict. The MDMP thus is designed as a framework from which to diverge as necessary. The process as exists today works in stability and support operations as well as mid- to high-intensity combat operations, be they offensive or defensive in nature.⁴³ Also, the MDMP is designed, as its last step indicates, to produce an operations order or operations plan. In other words, the MDMP is a tool for the decision maker (commander) and his staff to solve tactical problems across the spectrum of conflict by producing a plan for any type of operation.

MDMP's Other Advantages

Unfamiliarity and Uncertainty

When facing unfamiliar territory, such as a mission in a part of the globe that the U.S. has never had formal military operations (i.e., Afghanistan, 2001) and against an enemy that is free-

⁴¹ U.S. Marine Corps Doctrinal Publication 6, *Command and Control* (Washington, D.C.: Government Printing Office, 1996), 108. The USMC has codified much of intuitive decision making into their doctrine acknowledging the value of tactical decision making based upon a leader's experience. In addition, USMC doctrine has long since acknowledged Maj John Boyd's OODA loop theory of decision making as well as others to provide a construct between planning theory and decision making theory.

⁴² FM 5-0, p. 1-12.

⁴³ The MDMP, as an analytical process, was developed to be able to solve military problems regardless of their type or nature. This allows the process to be used over the full spectrum of conflict and is not just limited to offense or defense operations.

thinking and unpredictable adversary, it is good to have a planning and decision making tool that is adaptable. As designed, the MDMP accounts for unfamiliarity and uncertainty in military operations by providing the framework and steps to analyze the environment and evaluate the current and future threat to operations.⁴⁴ Specifically, detailed terrain analysis by the staff helps the commander “see the terrain” for how it does or doesn’t benefit his unit as well as this same perspective for the enemy. In the absence of experience in a particular region, against a certain threat, there will always be the need to gain and maintain understanding of the situation in order to solve the tactical problem. This can only come through analysis. Which manner this analysis is performed and how it is presented to the commander will most likely change. But intuition and experience don’t serve a commander or the unit well when neither exists.

Individual and Collective Inexperience

Second, the MDMP provides a common baseline of format that compensates for new or even inexperienced commanders and their staffs.⁴⁵ Under the current personnel system of individual replacements and assignments, the staff and commander do not stay together as a cohesive team for very long. The commander of a battalion, brigade, or division currently serves a two-year billet as the leader of that organization.⁴⁶ Most primary staff officers serve 1-2 years in their positions, such as operations officer, executive officer, or intelligence officer. This in itself, when looked at across the Army, has a tendency to reduce experiential learning in the organization as the staff forms only a semi-permanent bond as a cohesive team with the commander.⁴⁷

The currently envisioned Unit Manning System (UMS) that is designed to replace the Individual Replacement System (IRS) will make officers very proficient in one type of force

⁴⁴ FM 5-0, 2-2.

⁴⁵ Gary A. Klein, *Sources of Power: How People Make Decisions*. (Cambridge, Massachusetts: MIT University Press, 1998), 29.

⁴⁶ February, 2004 briefing to Army soldiers: The plan for officers at the field grade level is to continue with 2-3 years service assignments in tactical units while the battalion commander remains in command for a two-year billet. The change to Unit Manning directs that officers’ first assignments are for up to seven years in the same unit. Obviously, there is disparity in the team already.

⁴⁷ Donald A. Vandergriff, *Path to Victory: The Revolution in Human Affairs* (Novato, CA: Presidio Press, 2002), 101. Vandergriff gives the excellent example of a brigade commander in the 25ID in Vietnam who planned the division’s offensive operations into Cambodia. When briefed to then MACV commander, GEN Westmoreland, MG Bautz expressed concern over the Army policy of limiting commanders to six months of command time and that the brigade commander who planned the operation would thus not be present to carry it out. Westmoreland overruled Army policy and allowed the brigade commander to stay.

structure. But Regardless of the future of officer management, the use of an analytical approach to solving problems goes a long way to providing the missing link of depth and breadth of experience and time together as a staff.

Opponents of the MDMP claim that rational and analytical problem solving processes aren't realistic and that people make decisions based upon their real experiences.⁴⁸ However, it is dubious to say that the officer is relying solely, or even mostly, on intuition or recognition primed decision making as he has little experience dealing with the problems his new unit faces. These will develop over time in his new position, where the officer can draw upon his previous experiences, but certainly not immediately. Said another way, if our officer is not an experienced chef, he's going to have a hard time making an elaborate Thanksgiving Day dinner for hungry relatives come to visit him. The first thing he's going to look for is a cookbook for recipes and gather the tools and ingredients with which to prepare and make the meal. He can most certainly determine what side dishes to make, for how many, and develop the meal plan according to any special situation, such as a kids' table and an adult table. This analogy is what the MDMP provides for our officer with limited experience: a framework for which to address necessary components of analysis to be able to assist in the formulation of a tactical plan regardless of the level of individual or collective staff experience.

Complexity of Military Operations

The interaction of various systems creates higher degrees of complexity.⁴⁹ As we have seen, military operations are a complex endeavor of numerous interactive systems. Thus a rational, or analytical approach has been the evolution of the Army's problem solving process since the level of complexity is best understood once analyzed by the organization. Only in such a way can truly creative solutions appear once the understanding of how interactive systems, such as religion, economy, population status and ethnicity, the threat, the government, the unit's own combat power, etc. can be leveraged. The less complex the environment, systems, and situation in general, the less need for an analytical process, or at least the need to analyze in detail, there

⁴⁸ Gary A. Klein, *Sources of Power: How People Make Decisions* (Cambridge, MA: MIT Press, 1999), p. 17.

⁴⁹ Michael Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos* (New York, NY: Simon and Schuster, 1992), 11. The military "system" undoubtedly has interaction with a multitude of environmental and human systems that are both complex and adaptive.

will be.⁵⁰ The MDMP is designed to analyze the complexity that exists in modern military operations and produce an optimum solution to the problem. As such, the MDMP has provided military leaders with necessary tools by which to understand and cope with complex military problems that span the spectrum of conflict, as well as joint, interagency, and multinational (JIM) operations of which the tactical commander may be a part.

The Disadvantages of Analysis and the MDMP

The “Too Much Time” Factor

The MDMP, if followed with all of its seven major steps and numerous substeps as a process, involves the staff and commander in an organizational problem solving setting. Each staff officer has particular estimates to complete and functions to perform. The commander likewise gives guidance in the form of COA’s to develop, his initial commander’s intent for the operation, and in other ways. Many times, however, operations at the lower tactical levels require limited time for planning and preparation as the need to execute and take advantage of the situation are paramount to success. The limited time available for detailed analysis by the staff and commander and to the development of multiple courses of action to determine the most optimum puts the MDMP into a somewhat contradictory mode.

The commander starts the MDMP when he receives a mission or anticipates receipt of a mission.⁵¹ Generally, new missions come with a modicum of time with which to prepare, especially for a new environment, threat, or situation in general. What isn’t so clear and neat is what the unit is supposed to do when it receives a fragmentary order (FRAGO) for a mission change. If one reads doctrine by the letter, the commander is to start the MDMP again to develop a plan to accomplish this new mission.⁵² This is what many opponents of the process describe: that the issue of a new mission or any military problem requires an entire revisit of the process in whole in order to create the optimum plan.⁵³ However, this ignores one factor of common sense: once the unit has been in an environment, including the terrain, threat and other systems, it has already built a collective experiential “database” in everyone’s mind. In other words, the unit’s recent experiences in military operations against threats in the current environment preclude the

⁵⁰ Klein, 95.

⁵¹ FM 5-0, p. 3-10.

⁵² Ibid., p. 3-10.

⁵³ Klein, et. al., p. 5.

need for redoing the detailed analysis of IPB, staff estimates, or other products that are already still viable, such as the modified and combined operations overlay (MCOO). Time should be saved in a FRAGO environment, but the persistent problem attributed to “too much time” that the MDMP requires goes directly to the levels of focus and proficiency of both the commander and his staff.

The other major problem that eats away at the time available goes to how the commander wants to receive the analysis of his staff and the products he requires to visualize the analysis and further track elements during execution. This leads directly to the issue of personality and style of a commander and the impact upon the unit.⁵⁴ For example, one commander may prefer detailed analysis and products while another commander requires less formal products to make a decision. Is it any wonder which commander most staff officer’s would rather support?

The “Too Complex” Factor

Many staffs and commanders themselves cry that the MDMP is way too complex a decision making and planning tool to be used at the lower tactical levels.⁵⁵ The argument goes that because it is too time consuming, too complex, and has multiple and varied steps and substeps, it is simply too difficult to use as prescribed by doctrine. Part of this problem is the accumulation of problems mentioned above, namely inexperience and training. When there is uncertainty, inexperience, and a lack of sufficient proficiency, any cookbook looks daunting. It is especially daunting when one tries to accomplish every possible item in the process when there may not even be a need. The “too complex” factor is real given a unit that is unprepared to mold the MDMP to the situation or trained in its use, together, as a team.

Many commanders list the above items as problems with the process when, in actuality, they are symptoms of a greater problem: when to use analytical decision making versus intuitive decision making methods. Many of the complaints from psychologists and military commanders about the current MDMP are that the MDMP is not representative in how true decisions are made. If you are struggling to fit your decision making into a doctrinal framework, this is a

⁵⁴ David A. Danikowski, “Personality and the Planning Process.” Monograph Prepared for the School of Advanced Military Studies (Fort Leavenworth, KS: U.S Army Command and General Staff College, 2001), 40. There can be no doubt about the impact of personality types and leadership styles upon an organization and thus the planning and decision making process.

⁵⁵ Daniel P. Bolger, *The Battle for Hunger Hill* (Novato, CA: Presidio Press, 1997), 166-177. Col. Bolger’s work describes the reality of the MDMP applied in a field environment with a lock-step

problem. If you are too rigid as a commander and staff to produce flexible orders in a timely process because the MDMP is your master and you are its slave, then this is a problem as well.

As we will see next, the fundamental issue with problem solving, decision making, and planning is that they are not necessarily interchangeable and that the MDMP exists to create plans that solve problems from multiple decisions made by the commander. Because of this and other reasons already stated, many opponents of the current MDMP favor a naturalistic, or intuitive model that relies heavily upon the experience of the commander to develop the plan and direct the staff to this purpose.⁵⁶ To determine whether we can still continue with the current MDMP for the Army's future force, we must visit the emerging science and doctrine of intuitive decision making and determine if the needs of the commander in the future force will be better served by intuition vice analysis.

process by an untrained staff. It is no wonder that many leaders complained about the MDMP's various perceived problems.

⁵⁶ Gary A. Klein, "Strategies of Decision Making." *Military Review*, May 1989: 56-64.

CHAPTER FOUR: Alternative Decision Making Models

We have discussed the history and rationale behind the MDMP and how it has come to be the Army's planning and decision making tool. Likewise, we have discussed the advantages this rational model brings to a commander and his staff as well as some of the drawbacks. In our search for a decision making model for the Army's future force, it is time now to describe some alternatives available and to expose the theory of naturalistic decision making.

Naturalistic decision making (NDM) has been described as "the study of how people use their experience to solve problems in field settings".⁵⁷ In this sense, NDM is very different from the time-consuming analysis done by an individual and his staff. NDM relies upon the experiences and mental database of the commander from which he can draw upon to determine the best course of action. The course of action that is developed in the mind of the leader is not created with other courses of action and then compared: it is created in isolation as the best solution to the problem. This is the major distinction between NDM and a rational model, such as the MDMP, which relies upon analysis and searches for an optimum solution to a problem from a set of possible courses of action.

NDM is most everything that rational analysis is not—namely, deciding without formalized processes. Hence, although much has been written about NDM, no discussion of a procedure has been codified that explains individual cognitive decision making, with few exceptions. NDM has several interesting features, or more correctly, conditions, that categorize it in distinction from analytical problem solving. First, there is usually time pressure to make the decision. Second, there are high stakes involved in the problem. Third, the situation involves experienced decision makers. Fourth, inadequate information or incomplete situational understanding is more likely. Fifth, there may be ill-defined goals. Sixth, there will be poorly defined procedures. Seventh, it is exhibited by cue learning (pattern analysis). Eighth, context between superior and subordinate headquarters may be absent. Ninth, the situation itself tends to be dynamic, and, finally, there is a requirement for team decisions, or a decision maker for an organization.⁵⁸ In comparing these features with the needs of the future force commander and the environments in which they will be operating, it seems there are many connections between NDM and the future force commander.

⁵⁷ Klein, *Sources of Power*, p.1.

⁵⁸ Ibid, 5.

The Recognition-Primed Decision (RPD) Model

Dr. Gary A. Klein's work on NDM has led him to proffer a decision making model he terms the Recognition Primed Decision Making model (RPD). The RPD model is currently the most-cited example of naturalistic decision making, although others exist. The RPD model is the fusion of the experience of a commander, leader, or manager with the ability to mentally simulate how the course of action would play out in one's mind.⁵⁹ This is essentially mental wargaming a plan combined with one person's experience. Furthermore, RPD combines the two processes of method people use to size up the situation and the method they use to recognize which course of action makes sense. In this, Klein proposes that, based upon his studies, 90% of people actually make decisions in this manner and seldom utilizes a rational or analytical model.⁶⁰

Klein's work is based upon decades of research and observation of military and civilian decision making groups and individuals. Instead of relying upon rational models with multiple substeps, Klein's decision makers relied upon experience and judgment to make decisions that, in most cases, were good enough to solve the problems quickly, but may have not been optimal. Klein terms this "good enough" approach, satisficing.⁶¹ Further, Klein et.al. observed that most leaders under pressure did not make decisions with multiple options or develop multiple solutions to choose from. The leaders were more likely than not deriving one course of action and having no need to compare multiple courses of action, as a rational model (MDMP) prescribes.

⁵⁹ Ibid., 24.

⁶⁰ Ibid., 100.

⁶¹ Ibid., 20. Satisficing is described as sub-optimizing: deliberately choosing a course of action or plan that is "good enough", but may in itself not be perfect or finely detailed. Satisficing in and of itself requires one to make a (sub-)conscious decision to discount other courses of action almost immediately as being not worth developing further.

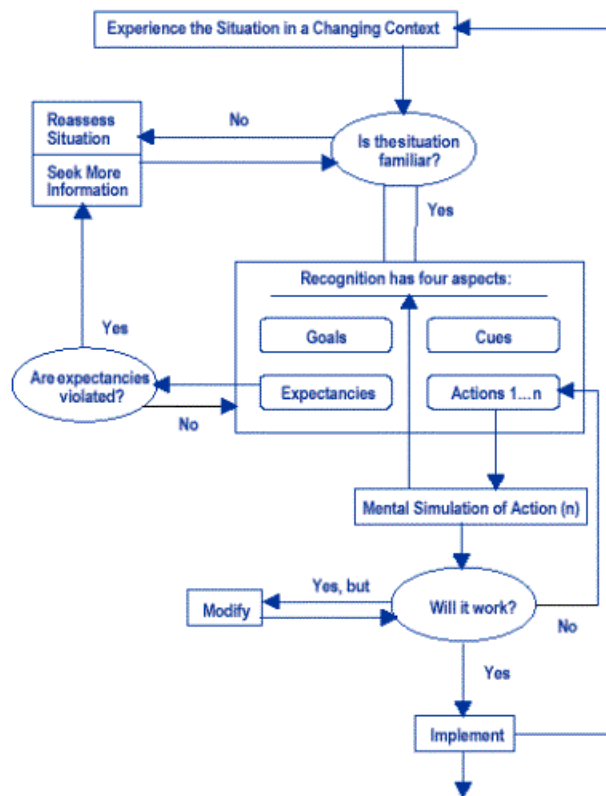


Figure 2: The Recognition Primed Decision Model (RPD)

Further testing and analysis led Klein to develop the RPD based upon several key areas. The leaders Klein observed understood the problem that existed, what cues (patterns) were important, and what to expect next. They also understood the typical ways of responding to a given situation.⁶² RPD then maximizes commander's experience to recognize patterns that both define and frame the situation and to develop satisfying courses of action, and then utilizes mental simulation (a form of internalized wargaming) to determine if the COA is feasible. If so, the COA is adopted; if not, the commander tries a new COA. In reality, many leaders expressed this form of decision making for years, though Klein, as a trained cognitive psychologist, may be the first to clearly articulate it.

One of the key aspects of Klein's research shows that seldom does a decision maker actually make decisions: they more or less quickly arrive at a plan based upon their knowledge of

⁶² Ibid., 24. The interesting categorization of RPD describes, in this author's opinion, more of conditioning, or rapid decision making or battle drills than developing plans for solving problems.

the situation combined with their experience.⁶³ Klein further states that options are devised and then evaluated on their merits alone, without comparison to other courses of action. In this manner, leaders utilizing the RPD approach quickly devise a suitable COA that satisfices for solving the problem.⁶⁴

Advantages of the RPD model

Rapid Decisions

A great advantage of Klein's RPD model for decision making is, as his studies have concluded, people make individual decisions very quickly under great time pressure without using a rational or analytical approach. The RPD model is all about satisficing, or sub-optimizing by developing a course of action that is good enough, but may not be the optimal solution. By developing one course of action quickly and discounting others out-of-hand (and arguably, subconsciously), the individual decision maker makes decisions that are sound and address the problem and saves time as well.

The RPD model requires less decision aids for the commander, theoretically, from which the commander monitors actions to make decisions. From our discussion earlier of commander personalities that desire a maximum of products from MDMP to track and monitor the fight during execution, we acknowledge that these products require time to complete and synchronize. Any visual representation of any course of action will require more work by an individual and staff to create. The RPD model fits into commanders who are comfortable making decisions with limited products and briefings to tell him what he already knows. It is therefore more likely to be suited for decision point tactics and when situations have changed to the extent that a FRAGO may be necessary to be issued immediately.

More specifically, there may be certain times during operations where the RPD is much more valid than an analytical model. For example, the need to plan and synchronize operations across the battlefield operating systems (BOS) generally calls for detailed analysis and production of detailed records of wargaming by the staff that produces specific products to monitor execution of a course of action during its execution. This typically happens for most units prior to crossing the line of departure, prior to conducting a contingency operations, such as an airfield seizure, or generally, at the start of major military operations. As such, planning sets the conditions to obtain

⁶³ Ibid., 17.

initiative and should be the basis for a point of departure after developing the situation further; usually, after contact with enemy forces is made.⁶⁵

Maximizes Experience of the Leader or Commander

Klein's RPD model relies heavily upon the level of experience of the person making decisions.⁶⁶ The U.S. Army has and will continue to be an institution that selects, trains, and continually develops leaders to serve in difficult situations in key leadership positions. In short, the Army relies upon the capabilities, potential and experiences of a leader in any position, as the Army is more and more a mission-oriented institution where decisions are pushed down to lower levels.⁶⁷ Obviously, the more experienced commander will be able to develop the situation and courses of action using an intuitive process such as the RPD model without having to rely upon a great deal of analysis as prescribed by the MDMP.

As stated earlier, many sources of friction with the MDMP as a decision making model is the perception that the commander abdicates his experience to a staff that more fully and rationally analyzes the situation and gains more useful information and intelligence for the commander to develop a course of action. RPD, in contradiction, relies upon the fact that the commander has either direct experience with the current problem, or his experiential database helps him develop a course of action that should work given the current situation. By example, Klein's research shows that skilled chess players, arguably individual decision makers, made feasible options (plays) as the first ones they think of and further, settled on their first option after considering other possible moves.⁶⁸

Flexibility and Adaptability

Klein's RPD model for decision making bluntly states that because of a person's greater experience with problem solving, in this case a commander in the Army, he is more readily to identify sources of change in the situation or environment that might impact upon decision

⁶⁴ Ibid., 20.

⁶⁵ John D. Hall, "Decision Making in the Information Age: Moving Beyond the MDMP", *Field Artillery*, September-October 2000, 32.

⁶⁶ Klein, *Sources of Power*, 95.

⁶⁷ Department of the Army Field Manual 6-0: *Mission Command: Command and Control of Army Forces*, (Washington, D.C.: Government Printing Office, 2003), pp.1-18, 1-19.

⁶⁸ Klein, 167.

making.⁶⁹ This is because of the recognition to look for cues, or patterns, in the environment that cause the environment to be dynamic, not static. In this, the commander is constantly looking for anomalies in the situation and continually drawing upon his experience at these decision points to modify a course of action and address the change. In other words, the RPD model has a built-in construct that explains how a commander can adjust, modify, or change his plan in response to the changing situation. In essence, it is supposed to allow commander to be more proactive and foster adaptability quickly in the organization with respect to its environment. Klein specifically addresses this when he claims that, “improvisation arises when there is recognition that the situation has functionally changed.”⁷⁰ Klein further discusses these “leverage points” as places where decisions can be made to alter the plan to maximize opportunities. The key to flexibility in any planning is the identification of when and where these leverage points will happen and construct a new course of action.⁷¹

On the whole, MDMP allows for commander input and in fact describes a greater degree of involvement by the commander is critical in time-sensitive and dynamic situations.⁷² Commanders who do not play an integral role and likewise describe their intent for operations will find that the process has failed to produce a shared vision of the operation. Lacking this shared vision, the organization won’t know how to focus the efforts of subordinates to find and report key information necessary for the commander to make a decision at such a leverage point. The RPD model suggests then that the commander would focus his experience and efforts at identifying these leverage points in the plan from which to make decisions. When compared to CCIR development and decision points from current Army doctrine, it appears that the RPD model supports information collection that would further support future decisions while executing the COA.

Disadvantages of the RPD Model

NDM theory as best represented by RPD shows several key advantages over the MDMP as a decision making tool. However, there are a number of drawbacks that may preclude its adoption wholly over the current MDMP.

⁶⁹ Ibid., 152. Klein’s reference to cues is essentially seeing patterns and connecting the current situation to patterns from experience in the past.

⁷⁰ Gary A. Klein, “Strategies of Decision Making”, *Military Review*, May 1989, 64.

⁷¹ Klein, *Sources of Power*, 114.

⁷² FM 5-0, p.3-3.

Planning

The RPD model, as presented by Dr. Klein in its current form, is a decision making tool, rather than a planning tool. This is an important distinction, as the RPD model seems very useful for an individual to approach problem solving under conditions of duress and with limited time. Planning connotes a communication of a shared vision.

Decision making on the other hand is a necessary component of planning—not in and of itself a replacement for planning. The RPD model has a large problem in this area, as the need to build a shared vision and communicate a plan may be very difficult for a commander using the RPD model alone. This is simply because it will be hard for a commander to articulate just how he's making his decisions and why they have been selected.⁷³ Klein himself observed that according to his research, of commanders who issued commanders intent during rotations at the National Training Center (NTC), only 19% fully framed the mission to be conducted with any fidelity that supported flexibility and adaptability in subordinates.⁷⁴ Further, planning is done specifically so that synchronization and synergy of combat power, necessary for the army's future force, are maximized. In using a model that only assists you in making decisions and not in planning, you are leaving out a necessary component of military operations—the plan.

Lack of Experience

Klein acknowledges that his RPD model relies heavily upon the leader or commander having a great deal of experience as a basis to make decisions. If experience, then, is the hinge to Klein's RPD model, what happens when a commander lacks direct experience or knowledge to derive mental simulations to make decisions? What does a commander do when he has little intuitive feel about how the cultures he's operating within function? The problem is that not everyone has access to the kind of experience one needs to address complex military problems utilizing Klein's RPD model. For example, the increasing number of stability and support operations (SASO) in the 1990's created situations where many mechanized and armored units from USAREUR deployed to peacekeeping missions in the Balkans. This had never existed in the units' mission essential task list (METL) for battalion and brigade operations. But after the fall of the Berlin Wall and the end of the Cold War, the operational environment changed rapidly.

⁷³ John D. Hall, "Decision Making in the Information Age: Moving Beyond the MDMP", *Field Artillery*, September-October 2000, 31.

⁷⁴ Klein., *Sources of Power*, 225.

Experiences from OPERATION DESERT STORM were less likely to suit problems found in SASO situations.

Complexity

We have already determined that the future operational environment will continue to exhibit complexity, and in fact, will most likely see an increase in the levels of complexity on the modern battlefield. To explain, it is necessary to look at the examples of research Dr. Klein presents from his studies in *Sources of Power*. The key decisions being made are being made in less-than complex or dynamic environments.⁷⁵ The stories of firefighters rescuing people from houses, paramedics rescuing lives in automobile crashes, and others describe situations that are, arguably, not nearly as complex as modern warfare. There are only a finite number of systems interacting with an EMT in a car crash, and only one is thinking—the victim; that is unless the victim is unconscious, as tends to be. The key difference is that military problems are representative of an open system, while most examples Dr. Klein uses to support RPD as a decision making tool are from closed systems.⁷⁶ The point here is that future combat, as posed earlier, will only continue its evolutionary trend to more complexity and systems interaction that has continued over several centuries. There are an almost infinite number of systems interacting, many of which are thinking, adaptive systems. Without analysis or detailed experiences, it will be near impossible for a commander to consider how an adaptive, thinking enemy will neutralize future force technology and conduct asymmetric operations.

Highly Individualized Process

Klein's RPD model is a description of how individuals make decisions. As such, it is a subjective measure in itself. Each person's RPD model will differ based upon experience and personality. Therefore, it is a poor model for sharing vision with the staff and subordinates and

⁷⁵ Ibid., 97. The majority of Klein's analysis and research is how an individual, in environments less dynamic and complex than modern combat, make decisions. His research of tank platoon leaders bears this out: these are leaders who execute battle drills, a form of conditioning, in which the leader plans little but reacts based upon cues and patterns and in accordance with mission requirements. Few of these examples given are about organizational decision making. Even the subtitle of Klein's major work on RPD, *Sources of Power*, is, *How People Make Decisions*.

⁷⁶ Ludwig van Bertalanffy, *General System Theory: Foundation, Development, Application*, (New York, NY: George Brazillier, 1968), 39-41. RPD exhibits closed system analysis because of the determinate state of usually one person using his experience against non-adaptive or complex environments.

for building the teams from the start. The utility of the RPD as a standardized model, one of our criteria for the needs of the future force commander, is almost neutralized by this concept. It is difficult to standardize a person's experience, and thus intuition, across the service. That there are a multiple of different personality types exhibited in our leaders and commanders also shows that what each personality emphasizes will affect any decision making tool. The RPD model accounts for personality and experience by not accounting for the impact of the former and relying too much on the latter.

The Recognitional Planning Model (RPM)

In 2003, Dr. Klein and associates conducted tests of a theoretical problem-solving model based upon his research into decision making and utilizing his findings and his own RPD model. Klein et. al. developed a new model, termed the Recognitional Planning Model (RPM) that incorporated the RPD decision making cycle into a planning process. The tests consisted of a battle staff for a Unit of Action in the future force (a battalion/TF equivalent) that was to develop a plan to implement for their future organization during an exercise played out at the Battle Command Training Program (BCTP) at Fort Leavenworth, KS, in January 2003.⁷⁷

Klein and staff established a quick training program that taught the theory behind the RPD model as well as the newly-developed RPM to the UA staff. The staff was instructed to follow the model for planning and produce an order. Most comments from participants, when reviewed, seemed to favor the new RPM process for planning. Comments such as, "RPM is the abbreviated MDMP process being practiced by many units. It is good to codify the abbreviated process", and "I like the commander-driven focus and involvement".⁷⁸

The model itself varies from the MDMP in some ways, but mirrors steps in others. RPM consists of the following steps that seem to overlap as depicted in the diagram below:

⁷⁷ Klein, et. al. "The Recognitional Planning Model: Application for the Objective Force Unit of Action (UA)", unpublished document, from U.S. Army Research Laboratory Collaborative Technology Alliance Program, Cooperative Agreement DAAD 19-01-2-0009, 2003, 2. Klein has further evolved his RPD model into a planning framework. The framework was not developed to solely replace the MDMP, but to "codify the existing and effective practices so the military can have a set of procedures that reflect their best practices as these have evolved over decades" (Klein, et. al., 2).

⁷⁸ Klein, et. al., 4.

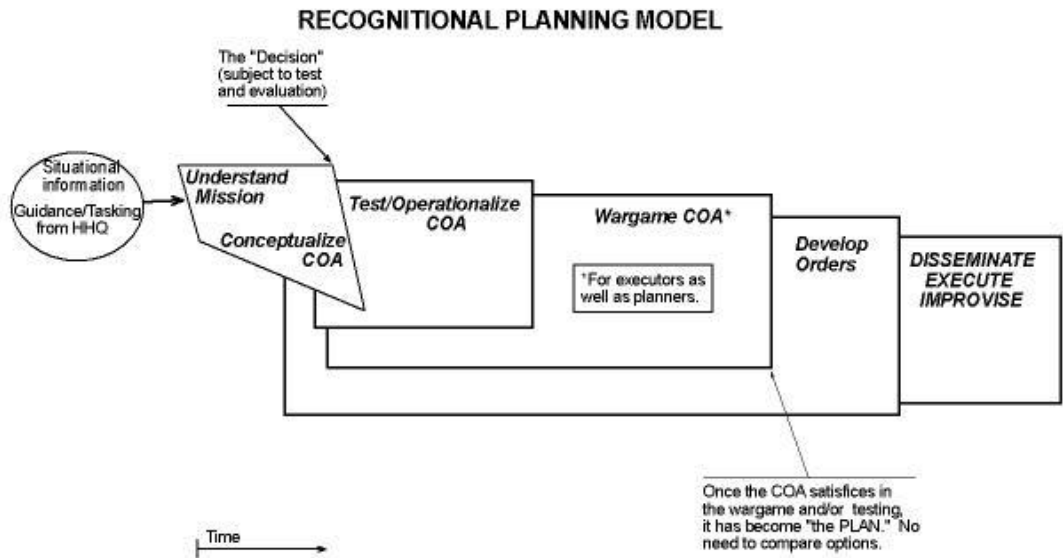


Figure 3: Klein's Recognitional Planning Model (RPM)

Further analysis of the model shows it to be just what it says: a planning model based upon RPD, where a COA is developed primarily upon the commander's experience, judgment and situational understanding, early in the process. The result of this is a model that leaves out the COA Comparison, COA Analysis, and COA Selection steps of the MDMP. In other words, the RPM is an abbreviated model of the MDMP where one COA is developed early in the process and further "fleshed out" by the staff. The key to the process seems to be the identification of a COA early on and involve the commander throughout the process.⁷⁹ Realities of the contemporary and future environment may be such that the commander just isn't present with his staff and may be doing battlefield circulation: talking with his subordinate commanders and otherwise engaged leading his unit. In this situation, the commander may not be there at the start of the process, or for some time. It may be that a commander is present at the start of planning, but not during the middle portions where the COA is developed and wargamed. Without feedback from the commander during these times, the staff may risk developing a plan that doesn't meet the commander's needs.

The most valid aspect of Klein's RPM seems to be the codification of what many leaders have known to exist in the planning environments. It is very possible to develop a COA early and

that, unlike the current MDMP, you must wargame this COA, or the multiple COA's you have developed, not only to determine if it meets the FAS test (Feasibility, Acceptability, Suitability), but also to see if it meets the commander's evaluation criteria (for multiple COA's) or key tasks (from the commander's initial intent). In other words, wargaming happens at least in two other places in the MDMP as practiced: during mission analysis, when you have to determine enemy courses of action available, and during COA development.⁸⁰ Klein's RPM, as he stated, is not a replacement for MDMP yet and must be further tested. However, it is apparent that the model addresses the advantages we have discussed about the RPD model of decision making and blended it with known, proven advantages of the MDMP.

In conclusion, we have addressed the alternative decision making model of naturalistic decision making (NDM), exhibited by Dr. Gary A. Klein's, recognition-primed decision making model (RPD) and recognition planning model (RPM). The articulation of NDM using the RPD model is an acknowledgment of how people do make decisions under certain concrete conditions, namely when the person has a great deal of experience, the environment and situation are not computatively complex, and there is limited time to make the decision. For the commanders in the Army's future force, with an environment of complexity, ambiguity, and adaptive, thinking enemies, the RPD model seems to offer only a partial solution in that it does not address all shortcomings of the current MDMP and in fact, would create more problems if utilized as the sole, standardized decision making and planning tool for the future force.

Next we will compare our analysis of the existing MDMP and RPD models with an eye again to the needs of the future force commander. We will determine whether to leave the MDMP as is, modify the MDMP to address the valid functions of RPD, radically change the MDMP, or to scrap the MDMP altogether and replace it in whole with the RPD model and naturalistic decision making in general.

⁷⁹ Ibid, p. 5. This and, like MDMP, a good mission analysis. "The key to a good solution lies in the ability to correctly assess the situation, since that assessment will guide the judgment about what is a good COA." (Klein, et. al., 5).

⁸⁰ The development of an enemy COA makes assumptions about what your friendly force will be doing, what it can do, and what it will not do. These considerations frame the possibilities of friendly COA development within the staff though there is no formalized recognition of this event taking place.

CHAPTER FIVE: Deciding How to Decide

The research presented shows the two major decision making theories of analytical decision making and naturalistic, or, intuitive decision making. The former is best represented by the current military decision making process (MDMP); the latter, by Dr. Gary A. Klein's Recognition Primed Decision Making model (RPD). We have compared the relative values of both decision making models and what each brings to the commander. With respect to the Army's future force, we will compare the two models more completely to determine if the Army is to decide using analysis, intuition and experience, or develop a new model more appropriate to the needs of future force battle command.

We must essentially determine one of four possible options:

1. Keep the current MDMP "as is" as a relevant decision making tool (at least until better information is available to prove a need to change decision making in the Army).
2. Modify elements of the current MDMP to meet future battle command needs, including blending with components of intuitive decision making, such as RPM
3. Radically alter the MDMP away from an analytical model
4. Scrap the current MDMP altogether and replace with an intuitive decision making model.

The four evaluation criteria that are necessary for the future force commander will be used to determine which course of action to take with regards to the MDMP. These are, support of battle command, synchronization and synergy, flexibility, and standardization of process.

Battle Command and the Needs of the Commander

Visualize, Describe, Direct

The battle command processes of visualize, describe, and direct (VDD) are already supported by the existing MDMP. Current Army doctrine, particularly FM's 5-0 and 6-0 explain this process and it's connection to battle command well. The most important aspect of the MDMP is that if viewed non-linearly, it shows how the commander's visualization is supported as a continuously updated event. New information or critical events may trigger within the commander and staff relevant actions to consider against the current course of action. A commander might alter a course of action based upon the continuous update of the battlefield information systems that the MDMP as a process supports. Likewise, the MDMP has obvious portions where a commander and staff can build the shared vision of what is to happen to be successful during the visualization and describe portions of battle command. Lastly, products

from MDMP, such as a synchronization matrix or decision support template would help a commander in directing the actions of subordinates during execution.

The RPD model seems to account for battle command, but in a very centralized manner. The key difference between the MDMP and the RPD model is that the former is an interactive process led by the commander; the latter is an individual process involving only the commander. It would thus be hard to develop a shared vision if a standard Army decision making process taught everyone to act according to his or her own experience and knowledge. With RPD, a commander can visualize, describe and direct, as he would need in the future force. However, mission command will still be the preferred method of command and control in the Army's future force and as such the RPD model relies too heavily upon one commander to do it all with regards to battle command at the future force unit of action (UA) level and higher.

Intelligence Preparation of the Battlefield

Intelligence Preparation of the Battlefield (IPB) is currently integrated fully into the MDMP. It is key to understand that IPB is input continuously into the MDMP to support the needs of the commander's battle command process. IPB doesn't stop once a mission analysis briefing has been conducted and the commander "buys off" on what the S2 thinks the enemy courses of action will be. IPB itself is a continuous and systematic analysis of the environment and the enemy and is therefore not a linear process.⁸¹

The RPD model seems to leave current IPB aside in lieu of the commander's experience. Formalized analysis of the environment and enemy systems and courses of action don't seem to be required: a commander should just pull a workable plan from his mental database of experiences to develop a course of action.

In the Army's future force, predictive analysis will still be at a premium, though the emotions attached by individuals to the term IPB may cause the terminology and even the structure of the process to change in the future. However, future force commanders must still have a system to define the battlefield environment; describe the environment's effects; evaluate the threats; and determine threat courses of action. This will not change and thus the MDMP and IPB will continue to suit the Army's future force.

⁸¹ Department of the Army Field Manual 34-130, *Intelligence Preparation of the Battlefield* (Washington, D.C.: Government Printing Office, 1996), 2.

Tracking and Monitoring

Tracking and monitoring of information to support IPB and commanders critical information requirements (CCIR) are likewise supported by the MDMP. This happens not only during the MDMP itself but long after the operations order has been briefed and the plan is underway. Again, products from the MDMP used for tracking and monitoring key items for a commander to make during execution are only possible when the staff understands their necessity and the commander makes good use of such tools.

The RPD model of decision making is about making decisions at the point of impact, not necessarily decisions that form the basis of plans which, in themselves, are populated with decision points for branch plans or targeting enemy forces. Thus, the RPD model does not show a need to track and monitor the battlefield environment in any traditional way: only by the sensory perceptions of one individual, the commander. The future force commander may be closer but still not be able to monitor and track all systems of the battlefield environment simultaneously with perfect fidelity. It is a challenge today and will remain a challenge in the future, though arguably less so. The point is that without tracking and monitoring systems developed by a plan, there will be little ability for a commander to recognize that he needs to make a decision, much less what his decision should be.

The Targeting Process

The targeting process, or what it will become the Army's future force, will still require some sensor-to-shooter linkage, only some of which we are approaching currently. The Army's future force will be capable of conducting near-global precision strike capability based upon analysis at the tactical level and the speed of information on the target package.⁸² All indications are that precision munitions and effects based operations will be considerations in the Army's future force just as the Army is beginning to cope with the concepts today. As such, the commander will need a process that tracks and monitors target packages, rapidly assesses attack feasibility, and can target the objective near-instantaneously. Currently, the MDMP supports the targeting process best when the targeting process does not supplant the concept of the operations,

⁸² N/a. Objective Force White Paper, "The Army in 2020" (Washington, D.C.: Government Printing Office, 2003), 21. This future-looking-backward white paper approach describes how concepts developed now were fielded and how the concepts translated into capabilities for the future force in 2020.

but complements the plan.⁸³ A joint precision targeting process will still require analysis and concept development to determine the high value targets and high payoff targets. The MDMP accomplishes this today and in the future force tomorrow.

Planning Military Operations

Lastly, planning is the most obvious benefit of an analytical problem solving and decision making tool such as the MDMP. The very output of the last step of the process is a plan, the operations order. Although global communications, reachback, parallel, collaborative, and simultaneous planning will become the norm for tactical formations in the Army's future force, none of it will supplant the need to plan. Availability of more information does not replace a plan; rather, that a plan has a better probability of being successful. The MDMP at the tactical level will become more streamlined given the key abilities to "see first, understand first, act first, and finish decisively". This does not preclude the necessity for planning operations.

Intuitive planning, as defined by the RPM, does not allow for planning of complex military operations defined by interacting systems of the environment, the enemy, the population, etc. Again, the RPD model is best suited for decision making that results during execution, not as a process for planning military operations. The RPM is suited for less complex mission sets, otherwise the staff and commander will have to constantly revisit step one of the process. This makes the process much more like the current MDMP.⁸⁴ A decision is the product of RPD. A plan, consisting of numerous decisions, is the product of the MDMP. The numbers of decisions reached in the MDMP are many, in spite of Dr. Klein's assessment of "decision points" reached during brigade planning exercises.⁸⁵ These could, and probably are, multiple points where a RPD

⁸³ Joseph S. McLamb, "Is it Time to Abandon the Military Decision Making Process?" *Military Review*, March-April 2002, 21. Likewise, those who espouse Effects Based Targeting in lieu of a concept of operations are missing the boat. Targeting, as explained by Major McLamb, is not a substitute for *the plan*.

⁸⁴ Klein, et. al. "The Recognitional Planning Model: Application for the Objective Force Unit of Action (UA)", unpublished document, from U.S. Army Research Laboratory Collaborative Technology Alliance Program, Cooperative Agreement DAAD 19-01-2-0009, 2003.

⁸⁵ Klein, p. 99. Dr. Klein's observation of a "brigade combat team" doing a planning exercise is but one instance and is thus statistically insignificant. Likewise, it is a highly dubious statement to claim that there were only a "handful" of decisions made in a complete five-hour record of planning. Decisions that are not articulated vocally and are made by an individual are still decisions from a staff officer that impact the plan. Deciding who is the first shaping operation or deciding what particular ISR asset to task for collection may not be articulated in COA development, but are nonetheless decisions, made as Dr. Klein claims, through an RPD process. As stated earlier (ch.4), this author believes Dr. Klein's fundamental error of logic is that RPD decisions do involve comparing options—if simply by the

model takes place because either a key staff officer or commander is making the decision based upon relevant information and their experience. So we see that RPD and in fact, decisions, are multiple and throughout the MDMP. In other words, the MDMP is a collection of decisions made to produce a plan and the means with which to track, monitor, and adjust the plan during execution. Thus, the RPD model in itself cannot replace a planning model as stated by Dr. Klein as it is only an articulation of a decision making model. As we have seen, the MDMP is more than just a true decision making model, it is a planning model as well.

Synchronization and Synergy

The requirement to synchronize and synergize the complementary effects of operations will not only increase in the Army's future force, but will become a cornerstone of capability by the Army to the Joint Force Commander.⁸⁶ The current MDMP, as an analytical process, fully enables the commander to synchronize the elements of combat power together for synergistic effects by requiring integration into planning by considering all elements of the battlefield operating system.⁸⁷

The RPD model helps a commander in terms of deciding how best to synchronize each aspect of combat power. Likewise, each staff officer, as a representative of his BOS, conducts and RPD approach, based mostly upon their training and experience, to best decide how, when, where, and to what effect to incorporate their component of combat power into the operation. This has been accepted in practice for many years, but not codified until Klein's work appeared. However, the RPD model does not show for input across the staff or between the staff and back to his commander. Synchronization of all available assets is problematic using the RPD model since an entire battle staff cannot conduct RPD and affect a coherent plan that is synchronized. There must be interaction, debate, and weighing of options. Likewise, the synergistic effect of what a commander wants done is much different than the necessary prescriptive requirements to facilitate putting together multiple, complex systems and assets to be used in simultaneous or complementary roles.

immediate discounting of other, less feasible options. Discounting options is still choosing, though this may happen subconsciously. If Dr. Klein is attempting to claim that each of these decisions requires a formalized process, or "miniature MDMP", to be used, then we can understand Dr. Klein's logic and why it is incorrect.

⁸⁶ Objective Force White Paper, "The Army in 2020", p. 20.

⁸⁷ FM 5-0, p.3-2.

As with planning, synchronization of combat power and synergy of decisive effects is only possible when a system is devised to control their functions. As James Beniger tells us from *The Control Revolution*, this control, as a necessity of speed and power, has only increased as societies (and likewise their militaries) have increased their technological capacities.⁸⁸ Only a formalized process can accomplish this control with any certainty to the mitigation of risks or other failures. As such, the RPM fails to provide the Army's future force commander a tool with which to synchronize and synergize his organization to accomplish the mission. Rather, the RPM only gives this commander a tool to make decisions about how best to synchronize each component of combat power without consideration as to the necessary detail of temporal and spatial analysis that completes the picture as a viable organizing tool for execution.

Flexibility

The Army's future force commanders must remain flexible and adaptive in their approach to decision making. This is because the commanders in the future force must be able to maximize opportunities as they arise, regardless of the base plan, against thinking and adaptive enemies. This is the essence of initiative and maintaining the initiative is virtually impossible if the organization and leadership do not remain sufficiently flexible to change. Along with this concept, adaptability and versatility are essential as well. Adaptability is the ability to change to the environment while versatility remains the ability to accomplish multiple missions or operations across the full spectrum of conflict.⁸⁹

The current MDMP as described in FM 5-0 is flexible in that it can be used across the full spectrum of conflict today and in the future. It is a tool that remains viable for planning operations in a peacekeeping environment, counterinsurgency operation, or deliberate attack of known enemy positions. It is thus flexible as a framework to define the military problem, regardless of type, and devise a course of action that best solves the military problem presented to the future force commander.

Klein's RPD model is also flexible in that it allows for use in any situation, military or otherwise daily life. This is because Klein's premise is the true nature of how individuals make

⁸⁸ James R. Beniger, *The Control Revolution*, (Cambridge, MA: Harvard University Press, 1996), 202.

⁸⁹ United States Army White Paper, "Concepts for the Objective Force White paper" (Washington, D.C.: Government Printing Office, 2001), v. The framework for adaptive leadership has its genesis in this white paper.

decisions, not organizations. But the planning aspects of RPM don't acknowledge a change from simple situations to complex environments. Klein himself states otherwise, that the concern that RPM won't work in a complex situation with a less-experienced commander is compared to planning staffs that will produce "lower quality plans using the MDMP if they are not responding to unfamiliar missions."⁹⁰ This is highly dubious as the analytical procedures outlined in MDMP allow for a staff to fully analyze the environment and make better judgments by gathering more complete information about an unknown situation.

Lastly, when one considers the existing doctrine of the MDMP and the possibilities of developing branch plans in the process to maintain flexibility in execution, then MDMP truncates any RPM. Simply, RPM does not account for multiple branch planning and pre-identified decision points nearly as well as existing doctrine which calls for each plan to be fully developed and wargamed.⁹¹ MDMP remains more flexible across the spectrum and in more complex environments.

Standardization of a Process

Our final evaluation criteria with which to build the future force decision making and planning model is a standard process that works equally well in all the various future force organizations. Because of this, we are not only considering "standardized" internal to the Army, but common language in the joint environment as well. As difficult as it is to codify, educate, and train for a doctrine that is all encompassing, it is harder to do the same when the Army has more than one model.⁹²

The MDMP as a standard process does not care for personalities of its leadership, what the situation is, where the unit is operating, or whether the unit is a combat arms or combat service support unit. Solving the military problem is the goal. Because of the Army's continuing effort in task organization and force tailoring, it can be reasonably said that the Army's future

⁹⁰ Klein, et. al. "The Recognitional Planning Model: Application for the Objective Force Unit of Action (UA)", unpublished document, from U.S. Army Research Laboratory Collaborative Technology Alliance Program, Cooperative Agreement DAAD 19-01-2-0009, 2003, 5.

⁹¹ FM 5-0, p.3-44.

⁹² This is the reason the 1997 version of FM 101-5 eliminated the use of the Tactical Decision Making Process and Deliberate Decision Making Process versions of the MDMP that emerged in the early 1990s as TTP. It was apparent that different units were learning different models at the different CTC's and were not training to a standard procedure. For a detailed description, see David W. Burwell. "The Logical Evolution of the MDMP" (School of Advanced Military Studies, United States Army Command and General Staff College, Fort Leavenworth, KS, March 2001).

force will not be a “one-size-fits-all” approach. In most cases, as history has shown us, units organized for a mission will be resourced with the correct tools, and this usually means altering the baseline organization with the relevant combat power from units outside the organization. For example, the unit of action in the future may have inherent combined arms and even joint capabilities organic to the organization. But a situation may arise where this UA must prevent a humanitarian disaster rather than its traditional, offensive operations mission set. This may mean the UA may become allocated with more water purification units or more maneuver units that have the physical numbers of soldiers with which to control the problem on the ground.

The RPM may not support this, even if selected as the one model for planning and decision making. Because the RPD model is highly individualized, it will affect how leadership in each staff affects their training. Subordinate units grow to expect the personality of decision making and planning, rather than the process. As we have already discussed the role of personality in the process, this does happen to a great degree presently. In other words, the training in RPM itself, or RPD for that matter, lends more to a personalized process that isn’t necessarily standardized.

It remains to be seen if Klein’s RPM will evolve through more testing and address this issue. It does appear that RPD and RPM will not address the issue of standardization as they currently appear simply because it is extremely difficult to standardize and codify intuitive processes and that everyone’s intuitive process is different.

Our research has drawn out two primary models for the Army’s future force planning: the MDMP and the RPD/RPM. Both have advantages and disadvantages and both have relative utility in the future. Therefore, we need not keep the MDMP “as is”, because it is readily apparent that there are many valid aspects of RPM that can be incorporated, namely the formalization of wargaming early in the COA development process. Likewise, it is dubious to accept RPM “as is”, because it alone does not nearly address the needs of the future force commander for planning. Last, our comparison between the two models shows that scrapping major portions of the MDMP is not wise, as there are quantifiably more advantages with keeping the MDMP as a process, but only through modifications.

Final Considerations

Key technological enablers are currently allowing echelons to plan, prepare and execute in parallel, simultaneous, and collaborative environments. Following tests and experimentation from Force XXI in the 1990’s, the Army has invested heavily into the Army Battle Command System (ABCS), blue force tracking, and parallel and collaborative planning tools such as

Maneuver Control System (MCS) and the Combined Arms Planning and Execution System (CAPES). This investment into the information age of warfare has already had a profound impact upon the field army in real world planning and execution. The most important factor, however, of embracing emerging technologies that assist battle command is that although it will fundamentally alter how we conduct planning and decision making, it will not alter the process itself.

By allowing commanders to be connected digitally higher, lower, and laterally as well as their respective staffs means that the paradigm of waiting for a mission to be briefed in an operations order is over. Staffs at various echelons, using reachback capabilities to extensive databases of information as well as shared planning tools and systems allows for simultaneous planning of operations in a collaborative atmosphere.

In 2001-2002, Army forces participated in the removal of the Taliban regime from Afghanistan and Al-Qaeda from their support and sanctuaries with OPERATION ENDURING FREEDOM (OEF). In 2003, Army forces were essential in the removal of Saddam Hussein's regime with OPERATION IRAQI FREEDOM (OIF). The Global War on Terror (GWOT) has involved Army units in continuous or repetitive deployments not seen since the Vietnam era. If ever there was a time to focus on the needs for planning in the future force, the battlefields, mountains and urban insurgencies of these environments have shown to be intense laboratories for tomorrow's decision making.

To begin, most After Action Reports (AAR) that have come from both OEF and OIF state that the situation was one that was never faced before and involved many more complex problem sets, such as deploying to theater, cultural understanding, and identification of threat courses of action. For an Army that was still struggling to break itself from the Cold War paradigm of alert, train, deploy, it was amazingly adaptive and responsive.⁹³

Specifically, 10th MTN Division elements took their planning approach from the doctrine of MDMP. It was apparent no one had been in a situation where they were deploying as a task force (in the case of battalions) or as a JTF (which was the division HQ) in former USSR states in a cultural situation totally alien to them in extremely remote and harsh environments. It seems no one committed to intuitive thinking or planning. 10th MTN Division units relied on planning

⁹³ After action reports from 10th MTN DIV (OEF), 101st (OIF) and 3rd ID (OIF) show that units relied on their time/ability to fully analyze and assess the situation and make solid plans prior to commencing offense operations. All are available at: <https://call2.army.mil/call/call.asp?WGSID=311236270>

procedures and tactics, techniques, and procedures developed over time to plan, prepare, and execute combat operations in a hostile theater.

Likewise, 3rd ID (M), as the CFLCC main effort in their attack to Baghdad, had several months planning and preparation/training time in Kuwait prior to crossing the L/D.⁹⁴ Just as importantly, this time devoted to preparation also allowed for continual planning updates by integrating continuous information and intelligence. This allowed the division to not only become more fully immersed in the environment and better understand the environment's effects, but allowed for real-time updated intelligence to help modify the plan once it was made. As stated, RPM allows for revisiting a course of action as well. Given the time in a complex environment, units tended to fully develop their plan, build in flexible options for after crossing of the line of departure, and fully identify the decision points and develop the branch plans to support flexibility and maintaining the initiative.

It is apparent from the AAR's that after contact, units FRAGO'd their subordinates in alterations of the base plan. They were capable of doing so because of the shared information and understanding brought by the solid baseline planning prior to crossing L/D.

Lastly, when units transitioned to phase IV (post-hostilities) operations, the continuous assessment of the battlefield and circular process of IPB and targeting intelligence and effects caused many subordinates to realize early that former regime loyalists were going to keep fighting long after the fall of Baghdad. Because MDMP is really a circular process of continuously evaluating the plan's feasibility, units responded proactively. The RPM model espouses its circular nature as well, but this again makes it appear as a rebirth of existing doctrine.

Therefore, we are left with our conclusion that the current MDMP, as described in FM 5-0, is sufficient, once modified to adopt the appropriate aspects of naturalistic decision making as represented by RPM. Unit of action (UA) and unit of employment (UE) commanders in the future force will have a system that meets their battle command needs, supports their need to anticipate execution of operations through a planning process, synergizes the necessary effects to win, remains flexible and adaptable regardless of the situation, and is standardized so that distributed, parallel, and collaborative planning and decision making isn't a surprise. Having this, our future force commanders can keep and maintain the initiative in their efforts.

⁹⁴ 3rd ID(M) AAR, 2003, available at <https://call2.army.mil/call/call.asp?WGSID=311236270>

CHAPTER SIX: Conclusions and Recommendations

The Conclusion

The fundamental conclusion is that a blending of intuitive decision making and analytical process best addresses the needs for planning and decision making in the army's future force. The experiential model of intuitive decision making, as exhibited by Klein's RPD model, and the analytical process of planning and decision making, exhibited by the current MDMP, must be brought together in a more formal manner. This is because using only one process on its own merits limits a commander's ability to conduct battle command. By remaining rigid and primarily analytical in nature, the commander may abdicate his control of planning and decision making and negate his experience. By conducting decision making and planning solely based upon intuitive processes leaves the commander in need for the details that analysis and reasoning brings.

In other words, it isn't necessary to revolutionize the planning and decision making processes with a radically new system or scrap the MDMP altogether. Rather, an evolutionary approach to addressing the needs of the future force commander is called for. This can be completed with a modification to current planning and decision making doctrine using existing, naturalistic decision making theory in concert with existing and emerging technologies to enhance planning across multiple echelons.

Recommendations

The MDMP is still a valid tool with which to plan military operations across the spectrum now and into the future. To make it better and more relevant to 21st century decision making, several recommendations can be made. First, as stated above, the decision making and planning process must be modified to become more practical. Next, there must be a requisite refocus on our training and education on the process not only in the institution but in the organizational army as well. Last, it is recommended that the Army focus on the individual leader training aspects of creative, adaptive thinking that will be necessary to make order out of the chaos that will certainly describe the future force commanders' environment.

Changing the Model

Dr. Klein believes that the analytical nature of the MDMP reduces an experienced commander's ability to use his intuitive processes--we disagree.⁹⁵ If anything, the commander's involvement, because of his experience will focus the staff on outcome, not the process. It is rare that a combined arms commander will abdicate his experience to any rigid adherence to doctrine. As such, if the commander is connected and involved with the staff, physically or virtually, the staff can remain focused and maximize the commander's guidance and experience into the planning process.

It is important to realize that the MDMP is not a strictly linear, lock-step process. As the information environment is constantly changing, there may be a need to revisit an earlier step in the MDMP. The incorporation of IPB, targeting and the constant revisit of staff estimates and of assumptions as being valid or not means that there is no pipeline with only two openings. As such, the development of a course of action can happen anywhere in the process. To address this valid component of Klein's RPM, the MDMP must codify the fact that commanders may conceptualize a plan during mission analysis and, beyond having the staff develop a directed COA in the interest of time, the commander should be given steps that show how to give pertinent guidance for developing the COA by the staff early in the planning process.

Klein's technique in RPM is the "commander's interview" and is more participatory than the "commander's guidance for COA development" currently part of mission analysis in the MDMP.⁹⁶ The commander's interview is a construct that allows an open-end discussion of the tactical problem the commander faces. The interview is really a conversation about what the commander is thinking out loud to his staff through a somewhat informal process. By doing so, the process is an interactive one where experience and judgment is passed onto his staff along with the commander's intent. It is also key as it is the most likely place, early in the planning process where a course of action may be derived—even before the completion of mission analysis.

The recommended modification to the existing MDMP is not only to develop a COA early in the process, but more importantly, to formalize the wargaming process as a "PreMortem"

⁹⁵ Klein, et. al., 5.

⁹⁶ Klein, et. al., 6. Also, FM 5-0, ch. 3-21 discusses the necessity for the commander to give guidance on how to plan courses of action. In addition, commander's guidance for COA development is not intended to be a "one-way" conversation. The staff is free to briefback the commander on his guidance and clarify issues such as evaluation criteria for comparing COAs or specific BOS considerations.

during COA development.⁹⁷ Current doctrine reminds the staff and planners to remain neutral in their thoughts during COA development and not fall into the trap of analyzing and comparing COAs in the interest of remaining unbiased in planning.⁹⁸ However, if a COA is developed early, it should be formally wargamed early. Even if there are multiple COAs, each COA can be wargamed against possible enemy COAs beyond the simple feasible, acceptable, suitable (FAS) criteria. In other words, a “hasty wargame” should take place during COA development for situations involving multiple COAs. This in itself means that the important evaluation criteria for the plan must also be derived early on in the process, and not as it stands now in doctrine during COA comparison. This modification incorporates intuitive experience and analysis. It also means that the existing mission analysis, course of action development, and COA analysis steps may happen simultaneously. As the conceptual figure below shows, there is overlap between these steps in MDMP. If formalized, it will allow the commander and staff to focus early in developing sound plans to solve tactical problems.

⁹⁷ Ibid., 4. PreMortem is the term used to conceptualize a COA early in the process and “test it” in the mind of the commander using experience, judgment, and intuition. A PreMortem, then, is nothing more than an individual mental wargame of a possible COA.

⁹⁸ FM 5-0, p. 3-26.

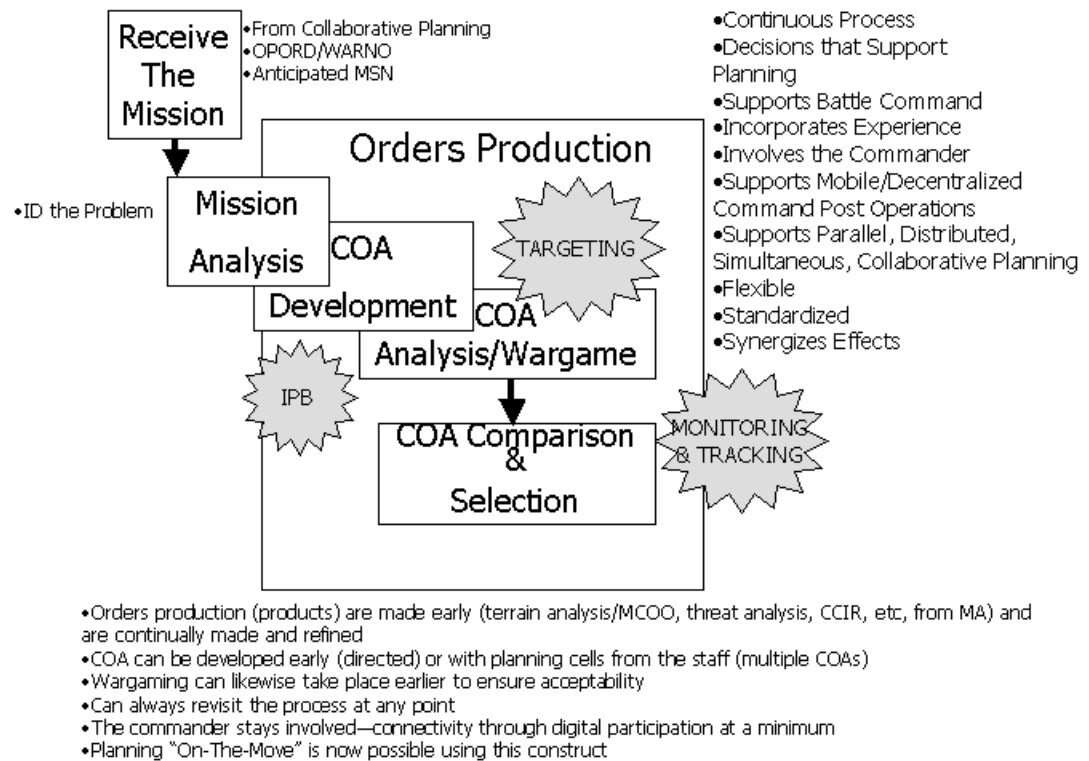


Figure 4: The Blended MDMP—Experience with Analysis

The existing and emerging technology to plan between echelons in a distributive and simultaneous manner will be the key enabler to allow this model to work. This is because the commander does not have to be collocated with his staff in order to give guidance. Nor does the staff have to wait for the order from higher as the staff has already participated in some of the planning process and knows what to expect. Thus the traditional step of “receipt of mission” happens much earlier than is normally thought. Likewise, subordinate commanders can be brought into the planning process with the future force commander where all share in the “commanders interview” to drive planning quicker and with better solutions. This is not possible using sticky tape flags and acetate sheets and copy machines. It will only be possible when the future force gains and maintains digitized connectivity across the command. Since the command and control echelon structure may in itself change, the blended model for MDMP enhances planning when no C^2 echelon formally exists in the organization.

Institutional and Organizational Learning

Beyond implementing a blended model for planning and decision making, the Army must focus upon the education and training aspects of implementation. If we are to include intuitive

decision making abilities in our decision making and planning doctrine, it will be necessary to codify and train our leadership to build intuitive thought processes from real and virtual experiences. Before there is a final future force organizational structure, there must be some existing capabilities and knowledge resident inside the institution, the organization and its leaders to meet the challenges of tomorrow's battlefields today.

The first step is the recognized need to train and develop adaptive, creative leadership at all levels of the Army.⁹⁹ Not only will the future environment consist of more complexity that is pushed downwards to more junior leadership, the continuous development of the Army as a joint and expeditionary force demands that our junior leaders can also plan and synchronize operations with relevant joint forces as well.

The adaptive leader training model for the individual must come about as a fundamental change in training and education of the individual. First, Army basic and career courses need to focus individual leader training on multiple adaptive vignettes and exercises rather than producing few, but very detailed and complete operations orders. While it is important for the institution to remain committed to instructing to standard, it is equally important to train lieutenants and captains how to think rapidly and without deliberation in order to develop sound tactical plans. The best method is through the formal incorporation of adaptive leader vignettes and tactical decision exercises (TDE's).¹⁰⁰ To create adaptive leaders who are effective staff officers later in their careers involves early education and training in scenarios and virtual environments that continually build their abilities to think creatively. The solution to TDE's is not what should be evaluated, but rather the thought process of the leader. The objective of this training technique is to build the "mental database" in the leader to use in practical ways upon graduation. In addition, it teaches the leader to recognize patterns quickly and develop COA's and wargame them rapidly as well. Not only will this be useful as a future force commander, but equally useful when the leader serves as a staff officer in support of a commander's battle command requirements.

⁹⁹ Army White Paper, "Concepts for the Objective Force". (Washington, D.C.: Government Printing Office, 2001), v.

¹⁰⁰ Frank W. Brewster, "Using Tactical Decision Exercises to Study Tactics", *Military Review*. November-December 2002, 3-9. An excellent article that accounts for training adaptive leadership through very simple yet effective training tools with severe time constraints. Building experiences through simulation allows the leader an experiential database to assess actions in the future in spite of the fact that the experience was never "real". Likewise, this type of training explained by Maj Brewster helps a staff organization solve complex tactical problem sets that likewise build experience from which to make better decisions in the future or in "real world" environments.

Sports psychologists and trainers have acknowledged for years the impact of visualization by athletes to foster a “mental database” of experiences of which they haven’t actually had.¹⁰¹ These benefit athletes, much like TDE would, in causing the individual to participate in a scenario that may be different each time but is nonetheless useful for drawing relevant experiences. A cyclist who visualizes how to sprint in a pack of 50 riders has multiple options. Playing the scenario out in his mind or talking it through with a coach builds a trained experience that the cyclist can draw upon later. The same can be said of TDE’s and adaptive leader vignettes for education and training. Lacking real experiences, TDE’s and similar simple and focused thinking exercises ready the minds of junior leadership to face complex challenges in a variety of environments in the future.

The captains career courses (CCC) need to also be the formal institutional training for MDMP as captains become trained to be assistant staff officers at various echelons of the UA or UE. This critical level of education and leader training is the essential step to altering how we train all levels of officers through simultaneous and shared training exercises across the officer education system (OES).

Likewise, Intermediate Level Education (ILE) and Pre Command Course (PCC) training that currently exists must be modified to incorporate training on the blended MDMP. The “iron majors” and the UA/UE leadership must incorporate their learned, adaptive skill sets and experiences into staffs for planning and execution of missions. As we become an Army more joint, interagency, and multinational focused, our planning and decision making process must work with other organizations. Codifying training on intuitive decision making and planning into existing processes will only further enable field grade officer staff proficiency and thus empower future force commanders.

Second, the education and training for MDMP must be done in a shared, virtual, and simultaneous environment. In the Army’s future force, there will be no need to bring all levels of education to one location. Virtual and constructive exercises can be coordinated over information systems that will mirror the decentralized and distributed battlefield environments. The primary construct for this should be that a UA command-designee in PCC should role play that position and utilize a student UA staff from ILE and CCC in order to conduct simulation training for a

¹⁰¹ Chris Carmichael, *The Ultimate Ride* (New York, NY: The Putnam Group, 2003), 17. Coach Carmichael explains the value of internal and external visualization to build mental simulations of athletic events that, although they are imaginary, have been proven to help the athlete build useful experiences from which to use in the future.

notional mission. This is done to a lesser extent today, but the cohesion from reforming the institution into a virtual schoolhouse and involving all echelons into a training exercise will both educate and train skill sets required of leadership and staff officers serving in the future force.

Last, organizational army units can train MDMP as a staff “orders drill” using the existing training support packages on various information systems to plan and conduct similar training as described above for their specific METL or battlestaff tasks. In other words, the lines between organizational and institutional training and education are blurring thanks to the same technology used to digitize the force.¹⁰² It will be possible to train battlestaffs on the MDMP using multiple, iterative processes with various scenarios that are easy to create as tactical decision exercises and can be tailored to focus on specific battlestaff weaknesses. This training can be done using the same learning objectives from resident courses as mentioned above. The key is that by focusing on the outcome instead of the process, you will build the “mental database” of experiential learning that forms the basis of adaptive leadership.

In conclusion, today’s MDMP isn’t broken, but rather misunderstood, as it needs to incorporate a commander’s knowledge, wisdom, experience, and judgment in a more recognized manner. Thanks to the work of Dr. Klein and Associates, the Army now has material it can incorporate into the MDMP that better explains how planning and decision making should be done for the future force. By incorporating existing Army doctrine and naturalistic decision making theory with emerging technologies, the art and science that is battle command for the future force commander will be better served.

¹⁰² N/a. Objective Force White Paper, “The Army in 2020”, 18. The institutional learning of an individual will no longer be limited to a schoolhouse. Any leader can conduct education from distance learning centers, embedded in the organization, from which to both educate and train. This is a product of global communications capabilities in the future force.

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